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A

TREATISE ON TREBLE BOB.

PART I.

CONTAINING

THE HISTORY OF TREBLE BOB: WITH AN EXPLANATION OF THE IN AND OUT-OF-COURSE OF THE CHANGES; THE MODE OF PRICKING TOUCHES AND PEALS; THE QUALITIES AND MODE OF TRANSPOSING PEALS; WITH ELABORATE INSTRUCTIONS FOR PROVING PEALS; AN EXPLANATION OF LOCKWOOD'S SYSTEM OF COMPOSITION, AND HINTS ON CONDUCTING AND CALLING ROUND.

BY

JASPER WHITFIELD SNOWDON,

President of the Yorkshire Association of Change Ringers;
also a Member of the Ilkley Amateur Society of Change Ringers; the Ancient Society of College Youths; the St. James's Society of Change Ringers; the Waterloo Society of Change Ringers; and the Norwich Diocesan Association of Change Ringers.

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INTRODUCTION.

A SHORT time ago I announced my intention of preparing for publication a collection of Treble Bob peals; upon further consideration, however, I concluded that the interest that would be taken in such a collection would necessarily be confined to a very few persons so long as the main body of ringers remained in the present state of general ignorance on all ordinary matters connected with the scientific branches of change-ringing; I therefore concluded that an explanation of some of these different subjects would be of more general interest than a simple collection of peals. If, however, the sale of this part of the work should be so successful as to pay the expenses of its publication, I shall then proceed with the collection of peals previously announced. I shall, therefore, be glad to receive copies of any original peals which have not yet appeared in any printed work. Those published I already have.

When I first began to take an interest in ringing, although I soon got together all the works of any utility published on this subject, I found that I was continually obliged to apply to—my then new friend—Mr. Henry Hubbard, senior, for further information on many very ordinary matters. Subjects which were to some extent indeed explained in the books themselves, but oftener with which the writers evidently considered their readers would be acquainted. Having gone through all this myself and knowing the troubles I found in treading these paths, I now wish, if possible, to save others from expending their time in obtaining the same information; I must, however, remind my readers that I am writing for practical ringers, or at all events those who are technically acquainted with the method of Treble Bob, and I do not intend, in these pages, to deal with the art of ringing, as the works of Messrs. Wigram and Troyte on Change Ringing very efficiently supply all such information; of the two I may say that the former, in almost every detail and description, explains the manner in which I learnt and in which I have always endeavoured to teach others.

Several of the articles which form the following chapters originally appeared in *Church Bells*, they have, however, been revised and extended. In making this statement I am glad to have an opportunity of expressing my obligations to the proprietor and editors of that publication for allowing them to appear in their pages, as had I not been able to prepare and issue them in such parts, I doubt that I should never have had the energy or determination necessary to complete them. In providing a cheap weekly source of communication between ringers, and one from which they may periodically learn what is going on in other parts of the country, in a way which would otherwise be totally impossible, *Church Bells* has, without the least shadow of a doubt, done a great deal for the exercise, and when it is, as I believe, carried on in the general religious interests of the community at an annual loss of several hundreds of pounds to the proprietor, I think it deserves more general support from ringers, who are especially benefited by its publication, than it receives.

Although, as I have said, several of the following articles originally appeared in the columns of *Church Bells*, I wish it to be well understood, as there seems an impression on some minds to the contrary, that I have never had anything whatever to do with the management of the part of that paper devoted to ringing matters; indeed, so far from having any control over what appears in its pages, I may say that my article on the "In and Out-of-course of the Changes" was returned to me by the editor of the "Ringing Columns," as unsuitable for publication, and had it not been for the representations of a friend would never have appeared therein.

In the chapter devoted to the History of Treble Bob, I have given an account of all the long peals on the different numbers of bells, and shall, at any time, be glad to hear from any one who can furnish any further memoranda on the subject. In the second part of this work I shall give the composition of all such of the long peals as are still in existence. I can, however, only deplore the fact that several of these compositions are, I doubt, entirely lost.

Since the papers on In and Out-of-course Changes appeared in *Church Bells*, I have frequently been asked to republish them; and although this chapter has not any particular reference to Treble Bob, it is, therefore, introduced here, as any one who wishes to understand the proof of peals or, indeed, anything connected with the science of ringing, must thoroughly understand this matter: indeed, the importance of this knowledge cannot be too highly rated, and must be my excuse for treating the matter at such length. It has always appeared to me that the explanations of such matters have been too brief, and that, hitherto, hardly one intelligible description of this subject has been published. The writer of a letter which appeared in *Church Bells*, previous to the production of my explanation, stated:—

> "I have studied all the ringing books from Shipway down to Troyte upon this subject, but cannot thoroughly master it. Sottanstall treats the most, and I should think the best, upon it; but he and Troyte, in one place, are directly opposed to each other, so that a learner, of course, does not know which is right."

This is, indeed, a predicament, but the statement is perfectly true; I was in the same quandary myself, at one time, and also considered that the explanations of all other writers but Sottanstall were too brief, while, although more lengthy, his *explanation* was still more incomprehensible, and sometimes at variance with the other explanations. An extract from Mr. Sottanstall's work, page 562, will give a fair idea of his manner of explaining the matter:—

> "By this time the practitioner will be very desirous to know the real signification of the in and out-of-course changes, of which there has been so much said at different times and by different men."
>
> "The following is my opinion:—
>
> "The practitioner must understand that the out-of-course changes in their proper places are in-course changes, and the in-course changes in their proper places are also in-course changes, (these are internal changes shown by the external) as will be shown in the following pages. Or they may be called male and female changes, or Adam and Eve if you like, as Adam was created first and then Eve, and God commanded them to multiply, and we, their sons and daughters, are many thousands; so by the male and female changes, taking their proper places, we can go on with change ringing to a very great number, as you will see by referring to the permutation.
>
> "I have now arrived at a place for giving the practitioner plain instructions how he may discern any given change, whether it is in or out-of-course, when the treble is in any place or the bells in any position. I shall prove this by giving the practitioner a spontaneous row, with the treble in the 8th place the back stroke behind. The following are the changes moved in this way—8 7 5 6 4 3 2 1 the given change.
>
> "This proves the change 1 8 7 5 6 4 3 2 above the line to be in-course, and *yet it is out-of-*course, because it is in its improper place."

What Mr. Sottanstall means I have not yet been able to discover; but as I also form one of those who are "directly opposed" to him in regard to the state of the courses in the method of Treble Bob Major. I am not very much concerned about my ignorance, I hope, however, that my meaning will be more intelligible to such of my readers as really endeavour to understand the explanation. When my papers, on the courses of the changes, appeared in *Church Bells*, a friend told me he altogether failed to understand them. I handed him a copy, and asked him to point out where my meaning was unintelligible, when he chose the words: "526431, transpose 3 with 5," and said he could not understand the meaning of "transpose;" I handed him a dictionary, told him to turn to the word and read out the definition, which was found to be, "to place each in the place of the other;" as this was exactly the meaning I intended to convey by the word, I think that my readers must excuse me if, under such circumstances, they cannot understand my meaning, as I do not think that my explanation should be expected to extend to the meaning of words that are used in their legitimate sense.

In Chapter V. the transposition of peals has been treated at some length, but I think that the fact of such a discussion actually taking place as that lately held in *Church Bells*, concerning a peal of Treble Bob Royal, will serve as any excuse that may be required for the necessity of such a very lengthy explanation of this and many other more simple matters.

In explaining the proof of Treble Bob Major I have adopted the course-end proof as being the simplest and most concise. This method of proof was first brought out in the *Clavis*, although it was therein somewhat briefly stated. I have, however, endeavoured to make it as clear possible, and have attempted what, until the appearance of my "Proof of Treble Bob" in *Church Bells*, had never been previously attempted, that is, the explanation of the mode of deducing such a proof, and how it is that such a proof is absolute evidence of the truth of the peal. I do not doubt, however, that some attention will be required to follow my explanation, to quote the words of a friend, the ablest and most accurate prover I know, who I asked to look this explanation over and make any suggestion he liked as to its version:—

> "I have looked over your instructions for proving, in *Church Bells*, and think they cannot be simplified; although so plain, they cannot be understood without a little study."

There are several other methods of proof, but as I have selected the one I consider the best I have not thought it necessary to go into the explanation of any of the others; but I believe that the tables given in the chapter on composition may be of much use in proving peals by merely running the peals over in the table.

Although I have at many times had a strong desire to devote my leisure time to the study of composition, I have, since my first connection with change-ringing, felt that my exertions would be more profitably expended, in the general interests of ringing, in endeavouring to collect facts connected with the early history of change-ringing and composition, as in a few years many of these records might be lost beyond recall, while the study of composition could, at any time, be taken up; besides this, it seemed to me that there was not any lack of students, more able than ever I could hope to be, in this branch of the science. For this reason, perhaps, I do not feel in the position in which I might otherwise have been to give advice on the subject of composition, as, however, such little seems to be known about it, I feel sure that the explanation of Mr. Lockwood's system will be very acceptable to the exercise generally, as from the closeness or ignorance of those who might have been expected to impart it, there has, I believe, always been great difficulty in obtaining any useful information upon this subject, and it is notorious that nothing, of any utility, has yet been written about it.

In concluding these remarks I must acknowledge the hearty thanks I shall always owe to my earliest instructor in the science of ringing (Mr. Henry Hubbard), and also to my friends, Mr. Henry Johnson, of Birmingham; Mr. William Harrison, of Mottram; and to Messrs. James and Tom Lockwood, of Leeds; who, with an untiring patience, a frankness and willingness I have never otherwise met with, have always been willing to answer my many questions, and also to impart whatever they knew to me. Any one who may therefore learn anything from the following pages must remember that it is to these men, and not to myself, that they are indebted for the means of obtaining such information.

JASPER W. SNOWDON.

Old Bank Chambers,
Leeds, April 11*th*, 1878.

TREBLE BOB VARIATIONS.

OXFORD.	KENT.
12345678	12345678
21436587	21346587
12435678	12435678
21346587	21436587
23164857	24163857
32618475	42618375
32164857	42163857
23618475	24618375
26381745	26481735
62837154	62847153
62381745	62481735
26837154	26847153
28673514	28674513
82765341	82765431
82673514	82674513
28765341	28765431
27856431	27856341
72584613	72583614
72856431	72856341
27584613	27583614
25748163	25738164
52471836	52371846
52748163	52738164
25471836	25371846
24517386	23517486
42153768	32154768
42517386	32517486
24153768	23154768
21435678	21345678
12346587	12346587
21345678	21435678
12436587	12436587
14263857	14263857

LEAD ENDS.

4263857
6482735
8674523
7856342
5738264
3527486
2345678

As it is not my intention to consider in the following pages anything more than the Oxford and Kent variations of Treble Bob, and as the composition and proof on ten and twelve bells is simply dependent on that of eight bells, I therefore give the foregoing examples of a treble lead of both these Major variations only.

In the table of course-ends following, the calling of the courses wherein the bob B. is not used, may be applied for transposing the course-ends on ten and twelve bells; the part of the table with bobs B., however, can only be applied to eight bells.

TABLE OF COURSE ENDS.

	M.	W.	H.	23456	M.	B.	W.	H.	
———	1			43652	2	–	1		960
1440	1	1		54632	2	–	2		1760
576	1		1	64352	2	–	1	1	704
640	1	1	1	65432	2	–	2	1	768
1600	1	2		35642	2	–			1440
704	1	2	1	63542	2	–		1	640
1760	1	1	2	46532	2	–	2	2	2080
960	1		2	36452	2	–	1	2	1152
1920	1	2	2	56342	2	–		2	1760
———	2			63254		–	1		768
1760	2	2		35264		–			1120
704	2		2	32654		–	1	2	640
2080	2	2	2	52364		–		2	1440
1600	2	1		56234		–	2		1440
1920	2	1	2	62534		–	2	2	1760
1152	2	2	1	23564		–		1	768
960	2		1	26354		–	1	1	864
704	2	1	1	25634		–	2	1	640
———		1		52436	1	–	2		960
576		1	1	45236	1	–	2	1	704
960		1	2	24536	1	–	2	2	1152
960		2	1	43526	1	–		1	864
———		2		35426	1	–			768
704		2	2	54326	1	–		2	640

When the bob "before" is used the same course-end is produced with different calling.

By repeating the calling, according to the number of bells displaced in the above course-ends, two, three, or five courses will be produced, and a great variety of short lengths for touches can thus be had. The different numbers of changes that will be obtained by repeating the calling until rounds is produced, is given by the side of the calling of the respective course-ends.

CHAP I.—THE HISTORY OF TREBLE BOB.

TREBLE BOB MAJOR.

There is always much pleasure to be found in exceeding the greatest attainments of others, and whether it be in composing a longer length or in ringing a greater number of changes, there will always exist some desire to overthrow the best recorded result. As this, however, can only be appreciated by those who are in possession of definite information on such subjects, it is my purpose, therefore, to trace the gradual progress of Treble-Bob ringing, from the first performance on each number of bells to the longest lengths yet accomplished; and as the two variations generally practised, viz., Oxford and Kent, are in every respect so much alike, I shall for this purpose treat them as being exactly similar.

The former of these variations was for many years almost exclusively practised, and when—under the title of "New Treble Bob"—the latter was first introduced, it was many years before it received much attention. After the time of Shipway—who, I believe, was the first to give it the name of "Kent Treble Bob"—it became more generally known, and is now almost invariably practised by Treble-Bob ringers. This preference can readily be accounted for, as the effect of Kent-ringing is to keep the tenors together much more; and besides the greater musical effect thereby produced, the practical labour of ringing it is a good deal less than in the Oxford variation, where the upward or downward course of the bell has to be reversed after place-making. In considering, therefore, the extraordinary display of physical strength shown by the different tenor ringers in some of the long Treble Bob peals on ten and twelve bells, to be hereafter mentioned, credit must be given to the ringers for accomplishing these lengths in the Oxford system, since it renders the task more difficult than if they had been rung in the Kent variation, as has been the case with all the long peals rung in late years.

In Treble-Bob Major-ringing, the extremely treacherous nature of the system has generally kept the limit of composition only slightly in advance of the power of ordinary ringers, and, therefore, as the different greater lengths have gradually superseded one another, a set of men has generally been found ready, with pluck enough, to attempt and accomplish the peal obtained. In the work of composition great advances have been made in the present century, and it seems probable that the limit with the tenors together,* and probably with them parted, has been, if not absolutely obtained, at least very closely approximated.

I purpose therefore, first to comment on the increasing lengths obtained with the tenors together, and then to proceed to those peals in which they are parted. The first performance of a peal of Oxford Treble Bob was one which consisted of 5120 changes, rung by the Society of Union Scholars at St. Dunstan's-in-the-East, Billingsgate, London, on December 27th, 1718. In accordance with a custom prevailing at that time, the Society called the method after their own name—"Union Treble Bob," as they considered themselves entitled to do this by reason of their being the first company who accomplished a peal in the method. Still, although the name of Union Treble Bob held to it to some extent, as may be seen by many of the earlier records of the College Youths and other societies, yet this license does not seem to have been generally admitted by ringers, as the name of "Oxford" was also used for it, and in course of time the newly-adopted title became still less used, and at length became quite obsolete. The calling of this peal of 5120 is still well known, and in the peal-book of the Union Scholars, now in the British Museum,† is the original entry of the particulars of the peal, a copy of which is appended:—

> "December the 27th, 1718.—This Society rang, at St. Dunstan-in-the-East, the first true and compleat peal of 5120 Union Bob. John Hedley, 1; Robert French, 2; William Freeborn, 3; Edward Franks, 4; Richard Oswald, 5; Thomas Perrin, 6; Robert Bawld'g, 7; William Balding, 8."

Fortunately, and curiously I may add, this peal is a true one, perhaps owing more to good luck than good management, as it was probably only considered true from the fact that the treble lead-ends were true, since we learn from the *Clavis Campanologia* that it was not until the year 1768 that Mr. Christopher Wells, a prominent member of the Society of London Youths, drew attention to the liability of Treble Bob peals to be false at the dodging of the treble before, and it is there stated:—

---

* This and some other of the technical terms relating to Treble Bob are explained in a subsequent chapter devoted to the "qualities of peals."

† This peal-book went through some curious vicissitudes before it was finally deposited in the British Museum Library. It contains the rules, members' names, and a record of the peals rung by the Society from 1718 to 1757. In 1876, Mr. Tuke and I copied it *in extenso* and reprinted it in 1877. A few copies still remain, and may be had, post free 7½d. each, by remitting stamps to Mr. R. Tuke, Ilkley, near Leeds.

It was our intention to reprint the other old MS. peal-books in the Museum Library, but, as we found in this case, that the interest taken by ringers in such matters was not sufficient to repay the bare expense of printing such copies, we have, I think, definitely abandoned the idea.

> "The rumour of this discovery soon spread a general alarm throughout the whole art; scarcely a peal being rung but its truth was now suspected; and, indeed, many of their fears were but too well founded, for on a strict investigation of the peals then rung, the old peal above-mentioned excepted, two out of three were absolutely false."

According to the same authority it was not until the year 1780 that the necessity for proof in 3-4, and 5-6 also—with the tenors together—was discovered. It is therefore probable that most of the peals rung before this latter date were false, more especially in the longest of these performances.

Having mentioned the above peal, there does not seem to be any reliable means of showing the gradual increase of the number of changes obtained with the tenors together, as the peals of greater length which I might mention may have been rung with them parted. I shall therefore pass on at once to the clever production of 8448, by J. Reeves, concerning which Shipway states in a note in his work:—

> "This peal was rung in the Kent variation of Treble Bob, by the Society of Junior Cumberlands, in 1787, at St. Mary's, Whitechapel, being the first time it was ever performed."

Of this performance there is, I understand, no record in the peal-book of the Junior Cumberlands. Still there is no doubt that it was rung by that Society, as Shipway mentions in his work that he joined it in 1785, and rang in the peal himself. Further particulars would therefore be of much interest. After this last-named peal I may allude to one worthy of notice, viz., 6720 changes, also composed by J. Reeves, rung at St. Giles's, Camberwell, by the Cumberlands in 1794, and conducted by the famous ringer and composer, Mr. George Gross. This peal, according to Shipway, was the first ever rung containing the 120 course-ends. The following particulars of it are taken from the peal-book of the Society of Cumberland Youths:—

> "St. Giles's, Camberwell.—On Monday, October 20th, 1794, the Society rang 20 courses, with 60 course ends, of Union Treble Bob, consisting of 6720 changes, it being the most that ever was rung in that steeple, in 3 hrs. and 58 mins. Geo. Gross, sen., treble; Wm. Pliso, 2; Wm. Stephens, 3; John Darby, 4; Wm. Shipway, 5; Malachi Channon, 6; Jas. Truscoat, 7; Geo. Harris, tenor. Call'd by Mr. Geo. Gross, sen."

At the time of its production the 8448 of Reeves' was pronounced by him to be the extent capable of being produced without parting the tenors. Shipway, however, with more caution, remarks that it "is considered to be the extent with the tenors together."

Although for many years it seemed probable that the length of Reeves' peal could not be surpassed, yet in May, 1869, Mr. John Thorp, of Ashton-under-Lyne, produced two peals three treble leads greater in extent; their number being, therefore, 8544. Neither of these peals was, however, rung until November 15th, 1873, when one of them was rung at Christ Church, Liversedge, by the Huddersfield and Liversedge ringers, the production of the peal being then ascribed to Mr. W. Sottanstall. The following are particulars of this performance:—

Saturday, November 15th, 1873, at Christ's Church, Liversedge, 8544 changes of Kent Treble Bob Major in 5 hrs., being the greatest number of changes ever performed with the tenors together in this method:—J. Stead, Huddersfield, treble; J. Knott, Liversedge, 2; J. W. Lang, Liversedge, 3; G. Clay, Huddersfield, 4; C. W. Clegg, Huddersfield, 5; M. Ramsden, Liversedge, 6; J. Illingworth, Liversedge, 7; W. Collins, Liversedge, tenor. Conducted by J. Illingworth. Weight of tenor, 16 cwt.

As the calling of the Liversedge peal was precisely similar to that of one of the peals produced by Mr. Thorp, the matter naturally gave rise to some controversy, more especially as Mr. Thorp had not made any great secret of his compositions. In 1874, however, Mr. Thorp set the matter at rest, as he then produced a peal, with the tenors together, of the extraordinary number of 8864 changes, which he conducted on the occasion of its performance at Ashton-nnder-Lyne as follows:—

Saturday, February 21st, 1874, eight members of the Society of Change-ringers of Ashton under-Lyne rang, at St. Peter's, Ashton, 8864 changes of Kent Treble Bob Major, in 5 hrs. 27 mins., being the greatest number of changes ever obtained, with the tenors together in this method:—T. Moss, treble; J. Bocock, 2: T. Stopford, 3; D. Heap, 4; B. Broadbent, 5; J. Gillott, 6; C. Thorp, 7: J. Thorp, tenor. Composed and conducted by J. Thorp, Weight of tenor, 20 cwt.

From the foregoing dates it will be seen that Reeves' 8448, which was rung in 1787, continued to be the longest length obtained, with the tenors together, for more than 80 years, as it was not exceeded until Mr. Thorpe's lengths of 8544 were produced in 1869. This number, as previously explained, Mr. Thorp himself exceeded in 1874 with his peal of 8864 changes, and in this state the matter rested at the time these remarks were first written, and when they appeared in *Church Bells* in March, 1876. Curiously enough on the very Saturday they were published Mr. William Harrison, of Mottram, obtained a peal one treble lead longer—namely, 8896 changes, which I received from him on the Monday following. This peal I at once forwarded to Mr. H. Hubbard, sen., who was able to insert it in an appendix to a new edition of his work on ringing, which was on the point of being issued, and I agreed with Mr. Harrison that we should not send the peal out until it had first been made public through this book. It was thus open to any one to be the first to ring the peal, and indeed it was not long before it was performed. The books were sent out on April 25th, one was received by the Secretary to the Cumberland Youths on the 26th, the ringers were chosen the same evening, and the bells went off into changes at 2-30 p.m. the next day. The following are particulars of the performance :—

On Thursday, April 27th, 1876, at St. Ann's, Highgate Rise, London, the Cumberland Youths rang Mr. W. Harrison's peal of 8896 changes of Kent Treble Bob Major, being the greatest length ever obtained with the tenors together, in 5 hrs. 22 mins. G. Newsom, 1 ; H. Dains, 2 ; J. Cox, 3 ; J. Howe, 4 ; D. Slackwood, 5 ; E. Gibbs, 6 ; S. Jarman, 7 ; J. Barrett, 8. Conducted by G. Newsom. Tenor, 15 cwt.

Although this peal of Mr. Harrison's is the greatest extent yet composed, with the tenors together, by means of ordinary fourth's-place bobs only, a further length has been obtained by Mr. James Lockwood, of Leeds, which runs 9119 changes without parting the tenors, with fourth's-place bobs only; from this point, however, it is brought round with a single at the 9120th change. This peal was rung on the occasion of its first performance by the Yorkshire Association of Change-ringers, and the particulars appended of the performance are taken from the books of that Company :—

"St. Matthew's, Holbeck, Leeds, on Saturday, October 28th, 1876, the Society rang 9120 Kent Treble Bob Major in 5 hrs. 15 mins. T. Harrison, Holbeck, 1 ; T. Lockwood, Leeds, 2 ; T. West, Holbeck, 3 ; R. Tuke, Ilkley, 4 ; H. Hubbard, jun., Leeds, 5 ; G. Barraclough Holbeck, 6 ; J. W. Snowdon, Ilkley, 7 ; R. Binns, Holbeck, 8. The peal, which is the longest length ever rung with the tenors together, was composed by James Lockwood, Leeds, and conducted by his son, Tom Lockwood, and has never been previously performed."

Having briefly recited the notable peals known to have been rung with the tenors together, I will proceed to consider those in which they are parted. The first known of these, and the longest length rung in this method for many years, was a peal of 10,080 changes, performed at St. Michael's, Coslany, Norwich (tenor 15 cwt.), on April 1st, 1727. Although the record, still existing, affirms that "there was no change alike or bell out of course," yet I think it improbable, considering the very little knowledge then acquired concerning the proof requisite for such peals, that this one could be true, unless, indeed, a conjecture of Mr. Hubbard's with regard to this peal could be established. The following is a copy of the tablet in the belfry of St. Michael's :—

"A remarkable peal was rung by the eight persons as under, called the Quarter-peal of Oxford Treble Bob, all eight in, or the Union Bob, consisting of 10,080 changes, which they rung in 6 hrs. 28 min., on the 1st day of April, anno 1727. There was no change alike or bell out of course. Performed by Richard Barnham, 1 ; Thomas Melchior, 2 ; John Harvey, 3 ; John Webster, 4 ; Thomas Gardiner, 5 ; Thomas Barret, 6 ; Edward Crane, 7 ; Robert Crane tenor."

As is usual with most of the earliest performances in ringing, no record of the composition of this peal exists; such losses have generally been attributed to the fact that in all probability the peals were afterwards found to be false, and any records of their calling would, therefore, be more likely to be destroyed than preserved, for so long as the calling was in existence a peal could at any time be shown to be false, if such was actually the case. The general feeling at the present day amongst many of our old societies against recording the calling of the peals they ring, amounts to rather more than indifference on this subject, and the almost invariable rejection of such particulars in their entries is probably prompted by a conservative feeling with regard to a measure which, according to the experience of other societies in days gone by, was seen to have certain disadvantages. This will always be the case with ignorant men, because unless they can satisfy themselves of the truth of a peal, they will be at the mercy of others for this satisfaction, and will always have a fear that some error may have crept in which will some day dispossess them of a peal which, so long as the calling is not forthcoming, must have an undisputed place amongst accomplished performances.

Mr. Hubbard's conjecture concerning the Norwich peal is to connect it with the peal having sixth-place bobs at the part ends, given in Shipway's work as the composition of J. Tebbs, of Leeds. Shipway also mentions that he received this peal from W. Eversfield, of Gravesend, as the composition of W. Doubleday Crofts, of Nottingham. Crofts was born about 1736, and died about 1809; and it was from him, some of my readers may recollect, that a copy of Garthon's peal of Grandsire Triples, rung in Norwich in 1718, found its way to Leeds many years ago. Garthon's family was, I believe, in some way related to Crofts', and thus it is probable that this peal, if it was actually the Norwich one, might come into Croft's possession. The way in which it is composed, without any regard to the positions of the tenors, and its extreme simplicity, point to it as being of a very early date; still there is nothing more than conjecture to connect the two. I endeavoured to get all the evidence I could upon this point, and, although I failed to arrive at anything definite, I collected some curious memoranda. Thinking that, as Mr. Crofts was a solicitor, he would from time to time make notes on ringing, I wrote to a ringing friend in Nottingham, to ask if there were any MSS. of Crofts' still in existence. My friend inquired, and found a quantity was in the possession of a friend of his, who did not know, until these inquiries were made, that he had it, nor could he then remember how it came into his hands. I had the papers to look over, and found Garthon's peal, with copious notes about it, amongst which was the following:—

> "Gathern's Tripples, composed in 1717, and rung at Norwich in 1718, the first of the kind ever rung with two doubles. Rung in London in 1719."

The London peal would, I imagine, be the peal recorded in the Union Scholars' Book as "Hick Triples;" it was, however, rung in 1718, a short time after the Norwich peal. In the MSS. I found the 10,080 headed "Union Treble Bob" written out by the lead-ends, but nothing to give any idea whether it was one of Croft's own productions or whether it was one he had received from another source. I have, however, related this to show how hard it would be to decide at once, on account of the peal not being producible, that it was necessarily a false one.

After the Norwich peal, at different times, several peals of the same length were rung, but in 1800 a peal of 10,112 changes was rung by the Society of Cumberlands at Edmonton. This peal was composed and conducted by Mr. George Gross, and at once took its stand as the longest length completed. The following is the entry concerning it in the Cumberlands' Peal Book:—

> "Unrivalled in the annals of Campanistanean fame, to the honour of Mr. George Gross, whose merit cannot too much be said for composing and calling a complete peal of 10,112 changes of Oxford Treble Bob, which was rung by this Society on Monday, April 28th, 1800, in 6 hrs. and 29 mins., at All Saints', Edmonton, by George Gross, 1; George Gross, jun., 2; James Nash, 3; Thomas Reeves, 4; John Hints, 5; James Barnard, 6; Samuel Cowling, 7; William Stephens, 8."

The calling of this peal is, as far as I have been able to ascertain, also numbered among the things that have passed away. This is much to be regretted, as is also the fact that the same may be said of the two next greatest lengths composed, as Shipway states that G. Gross obtained one of 10,994 changes, and J. Noonan was the author of another containing 11,904 changes. Neither of these peals was ever rung, and their length was afterwards superseded by one of 12,320 changes, composed by Shipway, which was rung by a mixed company of ringers at Otley, Yorkshire (tenor 16 cwt.), in 1814, being at that time the greatest length composed or completed. Concerning this feat, as its performance had died out of recollection at Otley, for a long time I was unable to ascertain any further particulars beyond the foregoing bare facts, which are gathered from the foot-note in Shipway's work, until I visited Wakefield Church, Yorkshire, where, at the foot of a tablet commemorating a peal of Grandsire Caters, I, quite unexpectedly, found the following record of the date and time of performance:—

> "On the 27th of August, 1814, the above-named William Woodhead rung the 7th bell in the church of Otley through a peal of Treble Bob, consisting of 12,320 changes, in 7 hrs. and 15 mins., being the longest peal in that method ever rung in England."

From this it appears that one of the Wakefield ringers—W. Woodhead—took part in the peal, and rang the seventh bell right through. Mr. C. Iles, formerly of Otley and now resident in Leeds, who heard this peal rung, and has since heard the other long peal and the different attempts made in Yorkshire, informs me that J. Hudson, of Leeds, rang the treble, and J. Tebbs, Leeds, and J. Inman, Keighley, rang the tenor between them, and that the peal was called from manuscript by a Keighley man, who did not take part in the ringing.

Before the actual completion of Shipway's book, in 1816, he received a peal of 14,016 of Treble Bob Major, the composition of Mr. W. Eversfield, of Gravesend, which was inserted in the Appendix to his work. This peal was at length accomplished, single-handed, by the Society of Ringers at Oldham, Lancashire, in 7 hrs. 26 mins., on February 12th, 1821. This peal was rung in the old church, St. Paul's, which has since that time been rebuilt, and is now called St. Mary's. The following is a copy of the tablet that is now in the tower recording this performance :—

"On Monday, the 12th day of February, 1821, was rung in the old tower Mr. Eversfield's peal of Kent Treble Bob Major, of 14,016 changes, in 7 hrs. 26 mins., by the following persons :—Joseph Newton, conductor, 1; James Mills, 2; John Brierley, 3; James Taylor, 4; William Rigby, 5; Thomas Chadderton, 6; John Whitehead, 7; James Jackson, tenor 14 cwt."

Mr. Iles also informs me that somewhere about this time, Hugh Wright, of Leeds, obtained a peal of over 14,000 changes, which was attempted at St. Lawrence's, Pudsey, but during the ringing, Smallpage and Mortimer, of Leeds, who were ringing the third and fifth bells, changed places, and Mr. Tebbs, of Leeds, who was outside, heard them change, and sent word up to that effect to J. Hewitt, of Wakefield, who was conducting, and who, when he came to one of his observation places, found it was so, and therefore called "stand," after they had rung about six hours. Wright afterwards exceeded this length by one of 15,168 changes, which was rung at St. Mary's, Elland (tenor 15 cwt.), on December 26th, 1831, in 8 hrs. 43 mins. For some time it was given out that this peal had been rung by eight men only, but at last the truth crept out that ten men took part in the performance, as the ringers at the third and fourth bells had to be relieved. The following are particulars of the feat :—

Monday, December 26th, 1831, at St. Mary's, Elland, was rung in 8 hrs. 43 mins., Hugh Wright's peal of 15,163 changes of Kent Treble Bob Major, being the greatest length composed in that system. W. Haigh, Huddersfield, 1; B. Crowther, Elland, 2; L. Noble and T. Pitchforth, Elland, 3; Jon. Womersley, Huddersfield, and J. Noble, Elland, 4; Jno. Womersley, Huddersfield, 5; J. Hanson, Huddersfield, 6; W. Dumbleton, Huddersfield, 7; S. Goodier, Huddersfield, 8. The first part was conducted by Jonathan Womersley, and the two last by S. Goodier.

In 1832, the year following the above performance, Mr. Thomas Day, of Birmingham, succeeded in obtaining a still greater length of Treble Bob Major, namely, a peal of 15,648 changes. This peal he afterwards lengthened to 15,840, and on April 27th, 1868, it was rung single-handed, at the first attempt, in 9 hrs. 12 mins., by eight members of the Ancient Society of

College Youths, at St. Matthew's, Bethnal Green (tenor 14 cwt.), in the tower of which church a tablet, of which the following is a copy, commemorates this peal, which is at this time the longest length ever rung in Treble Bob Major, or, indeed, in any other method, by one set of men :—

> "Ancient Society of College Youths. On Monday, April 27, 1868, was rung a true peal of Kent Treble Bob Major, comprising 15,840 changes, in 9 hrs. 12 mins., being the longest peal ever rung by one set of men. Performers :—H. Haley, sen., treble ; W. Cooter, 2 ; J. Pettitt, 3 ; H. Booth, 4 ; R. Hopkins, 5 ; G. Horrex, 6 : M. A. Wood, 7 ; J. M. Hayes, tenor. Composed by Mr. T. Day, of Birmingham, and conducted by Mr. H. Haley, sen."

About the time the 15,648 was rung in London, Mr. Day obtained two greater lengths, namely, 16,032 and 16,608 ; the latter of which, on December 14th, 1872, a company of ringers attempted at Earlsheaton, Yorkshire (tenor 14 cwt.), but failed, by reason of one of their number becoming exhausted, after having rung about 10,000 changes. The same company, however, on December 28th, 1872, a fortnight afterwards, accomplished what was for some time considered to be this peal, in 9 hrs. 48 mins.

Since this time, however, doubts have been cast on the correctness of the performance, and as these doubts have been publicly stated in *Church Bells*, and none of the ringers have come forward to deny their correctness, their truth is now generally recognised. The fact, that a certain length was rung by eight men only, has, I believe, never been questioned, but, whether from some mistake in conducting, or a change of course during the ringing, it seems that when the bells ought to have come round, they were not in the position to do so, and had to be forced or "jumped" round. Although I was present during the afternoon, I was only a novice in ringing matters at that time, and, therefore, quite unable to form any opinion upon such a critical matter, and as the only doubts I then heard were with regard to the time in which the length was supposed to have been rung, and as the time was not quicker than I expected from the speed at which the bells were going during the afternoon, when these papers on Treble Bob originally appeared in *Church Bells*, I admitted this peal on the list. As, however, since then definite charges have been made, and as neither the conductors of the peal, nor the ringers, have denied them, I cannot but conclude that the performance is not worthy of record. The time occupied in the Bethnal Green peal, and the Earlsheaton attempt, present such peculiar results, according to what might be expected, that I reserve a few remarks upon such matters for the conclusion of my remarks upon Treble Bob ringing. Before, however, proceeding to Treble Bob Royal, I may add that although Mr. Day has increased his 16,608 to 17,472 changes, by the use of sixth-place bobs, the original length is still the greatest ever produced by the use of fourth-place bobs only.

TREBLE BOB ROYAL.

As peals of Treble Bob on ten and twelve bells are nearly always rung with the tenors together throughout, no such classification as was required in Major is now needed. The first peal known to have been rung in this system on ten bells was one of 5200 changes by the Eastern Scholars, at St. Sepulchre's, Snow Hill, London (tenor, 32 cwt.), on April 7th, 1741. Mr. Osborne states that this was a false peal, and it was also described as such in a notice appended to the copy of the belfry board, which appeared in *Church Bells*, February 10th, 1872. Now when a statement of this sort is made it is best to consider the matter very thoroughly, and since Treble Bob Royal can only come false at the treble lead ends, it hardly seems probable that such proof can have been dispensed with in this case. The reason that the legend has gained such credit is probably owing to the following satirical lines, which were given on a tablet, subsequently erected by the College Youths, to commemorate the performance of 5,000 changes in this method, on May 30th, 1741, at the same church, these lines are generally quoted in support of the statement that the peal was false:—

"When merit's justly due, a little praise then serveth;
A good peal needs no frame, a bad one none deserveth."

Now it appears to me, that although the peal may have been false through an error in calling, or by a shift of course, or some such mishap, these lines rather point to an opposite result, or surely they would have described the peal as "a false one," rather than "a bad one;" and, therefore, I consider that the original contempt expressed with regard to the bad striking of the peal may have since been wrongly considered as applied to its truth. However, since the old legend may be allowed a certain amount of credit, I append further particulars of each of these performances, and as the original of the incomplete tablet given in *Church Bells* has disappeared from the church, give a copy of the record in the still existing peal-book of the Society of Eastern Scholars, which is now among the Osborne MSS. in the British Museum; and would remark that the day (Wednesday) stated in this book is inaccurate, as, in 1741, April 7th was a Tuesday—and the latter day was correctly quoted on the tablet. I may mention that such inaccuracies are not uncommon in the old peal-books, and may, I think, be accounted for by the entries being made some time after the original performance; when, as almanacs were not so plentiful then as now, a little carelessness would easily produce such results.

"Wednesday (*sic*), April the 7th, 1741, was rung at the parish Church of St. Sepulchre, a compleat peal of 5,200 Oxford Triple Bob, ten in. The performers:—Jos. Dickinson, treble;

John Sharpe, 2; Wm. Simms, 3; Wm. Lovell, 4; John Blake, 5; Wm. Roman, 6; Wm. Phillips. 7; Thos. Bennett, 8; P. Mainwaring, call'd bobs, 9; R. Windleborough, tenor. N.B. —This was the first compleat peal of 5,000 Oxford Triple Bob, ten in, that was ever rung, and compleated in 3 hrs. 57 mins."

The following is the peal rung by the College Youths :— .

St. Sepulchre, Snow Hill, Saturday, May 30th, 1741, 5,000 Union Bob Royal, in 3 hrs. and 46 mins., by—Saml. Lee, treble; Jabez Stephenson, 2; John Dearmor, 3; Wm. Pickard, 4; Benjamin Annable, 5; Jos. Griffiths, 6; Richd. Spicer, 7; Saml. Jeacocke, 8; Robt. Mobbs, 9; John Trenell, tenor. Conducted by R. Spicer.

On November 27th, 1758, the Cumberlands rang 5,400 changes of Treble Bob Royal, at All Saints, West Ham, Essex (tenor 28 cwt.), of which the following is a copy of the entry in their peal-book :—

"All Saints, West Ham, Essex, Monday, 27th November, 1758. This company rang 5,400 of Oxford Treble Bob, ten in, in 3 hrs. 46 mins., being the greatest performance ever completed in this method on ten bells. John Sibery, 1; Natl. West, 2; John Frazier, 3; Thos. Burrell, 4; Francis Wood, 5; Thos. Haydon, 6; John Purlewent, 7; Saml. Wood, 8; John Harris, 9; Robt. Wight, 10. Samuel Wood called bobs."

This peal was surpassed by one rung in 1766, at St. Leonard's, Shoreditch (tenor 31 cwt.), by the College Youths, of which the particulars are as follows:—

St. Leonard's, Shoreditch, on October 19th, 1766, 6000 Treble Bob Royal, in 4 hrs. 21 mins. The first peal in this method on the bells. Performers :—Winstanley Richardson, 1; Jas. Darquit, 2; Wm. Moss, 3; Wm. Underwood, 4; Thos. Bennett, 5; Wm. Mills, 6; Emanuel Crouch, 7; Geo. Meakins, 8; Robt. Bly, 9; Jos. Monk, 10. Conducted by G. Meakins.

On Jan. 19th, 1767, the above peal was exceeded in number, by one of 6,200, rung at St. Leonard's also, by the London Youths. The peal-book of this society is also among the Osborne MSS., and the following is the entry:—

"St. Leonard's, Shoreditch. By order of the Grand Master, the society did ring, on Monday, Jan. 19th, 1767, in the year of Bells, 3257, 6200 Oxford Treble Bob Royal, in 4 hrs. and 46 mins., being the greatest performance ever done on ten bells. The names of the brethren: —Brother Michael Purser, S.D., treble; Br. Thos. Harrison, 2; Br. Joshua Brotherton, G.M., 3; Br. Christopher Wells, 4; Br. Robert Reynolds, T., 5; Br. James Tichborne, 6; Br. John Cauney, 7; Br. James Patrick, 8; Br. Wm. Haste, 9; Br. Abraham Smith, tenor. The peal was call'd by Br. Christopher Wells."

Besides these particulars the course-ends of the peal are also given, and strange to say, on examination, I find the leads at the M false; this is rather unexpected, as Wells, who conducted the peal and perhaps composed it, discovered, as was previously stated in an extract from the *Clavis*, in the year following the ringing of this peal, that the proof of Treble Bob Major must extend to the dodging before of the treble, and it is therefore only probable that he should at this time have known that the lead-ends required to be true.

It therefore seems that this peal was undoubtedly false, and there is also some probability that the 6,000 rung by the College Youths was not true, as the Cumberlands called a still longer peal, one of 6,240 changes, "the first true 6000, and the most ever rang." This peal they also rang at St. Leonard's, on Jan. 20th, 1777, as will be seen from the following extract from the peal-book of the society—

"Shoreditch, Monday, January 20th, 1777. This company rang a peal of 6240 changes, Treble Bob Royal, in 4 hrs. 34 mins., being the first true 6000 and most ever rung. George Gross (call'd bobs), 1; Thos. Smith, 2; Isaiah Bray, 3; Thos. Whitaker, 4; Francis Wood, 5; Thos. Burrell, 6; Jas. Barnard, 7; Saml. Wood, 8: Robert Mann, 9; Saml. Muggeridge, sen., 10."

On account of this claim a very strong feeling was excited between the Societies of the College and Cumberland Youths, the result of which was a series of most wonderful single-handed performances, which, as athletic feats, have probably been little appreciated by the outside public, who are not able to estimate the mental as well as physical requirements of long-peal ringing. Perhaps no great end is gained by ringing these great lengths; but there is a fascination about them, and a pleasure in their accomplishment, which any Englishman should thoroughly understand; and certainly the performances of such men as Samuel Muggeridge, Allen Grant, and James Marlton, who rang the tenors in the most celebrated peals of Treble Bob ten and twelve in, are feats of which their countrymen may well be proud, as instances of that dogged pluck which is the peculiar boast of all who have the honour to call themselves Englishmen.

The first notable performance after the last-mentioned peal was one rung by the College Youths, who, probably thinking to set the matter of precedence in long-peal ringing at rest, rang 10,000 changes of Oxford Treble Bob Royal at St. Leonard's, Shoreditch, on Feb. 18th, 1777, in 7 hrs. 28 mins. The following is a copy of the tablet, erected in the tower:—

"College Youths. This tablet was erected by the Society to commemorate an excellent peal rung in this steeple, on the 18th of February, 1777, consisting of 10,000 changes of Oxford Treble Bob, ten in, and was completed in 7 hrs. 28 mins. This curious composition, the great length of time, and the masterly manner in which it was rung, may justly entitle it the most excellent performance ever achieved from the first invention of the ingenious art of ringing to the present time. Winstanley Richardson, 1; James Darquitt, 2; Wm. Hatt, 3; Chas. Purser, 4; John Povey, 5; Joseph Monk, 6; William Lyford, 7; Joseph Holdsworth, 8; Edmund Sylvester, 9; Samuel Muggeridge, 10.

"Insatiated with glory the above select performers, on the 19th of May, 1777, rang a compleat peal of 11,080 changes, in the above method, in 8 hrs. 2 mins., which will be transmitted to posterity as a masterpiece of the art. The above peals was composed and called by C. Purser."

It will be seen that this tablet records two feats; after the first was rung the Cumberlands did not at once attempt to beat it, but went "into training" on the bells, I presume, as, with the same men at the heavy end, they rang the following peals, viz., 5,080 on March 12th, 1777, at this church, and on April the 5th following, a peal of 8,120 changes at the same place. On Saturday, May 10th, however, they started in earnest, and accomplished a peal of 10,200 changes, at St. Leonard's, Shoreditch, in 7 hrs. 40 mins., of which the following is the entry in their peal-book, and thus took the mastery out of the hands of the College Youths:—

> "Shoreditch, Saturday, 10th May, 1777. This Society rang a peal of 10,200 changes of Treble Bob Royal, in 7 hrs. 40 mins. Thos. Whitaker, 1; George Gross, 2; John Lamey, 3; Isaiah Bray, 4; Thos. Harrison, 5; Francis Wood, 6; Jas. Barnard, 7; Thos. Smith, 8; Saml. Wood, 9; Robt. Mann, 10. Composed and conducted by George Gross."

The College Youths, however, were equal to the emergency, and to show that they could do more than they had previously done, the same band that rang the 10,000, "insatiated with glory," as they described themselves, rang the 11,080 recorded on the foregoing tablet, at St. Leonard's, on May 19th, 1777, in 8 hrs. 22 mins., and once more took the lead into their hands.

Although beaten for a time, the Cumberlands were evidently not disheartened, as, a few years after this, they again took up the contest and succeeded in ringing, single-handed, a peal of 12,000 changes of Oxford Treble Bob Royal, at St. Leonard's, on March 27th, 1784. This peal, of which the following record exists in the belfry, occupied 9 hrs. 5 mins., and is probably the most wonderful performance recorded in the annals of change-ringing.

> "Saturday, March 27th, 1784, the Society of Cumberland Youths rang in this steeple a compleat peal, consisting of 12,000 changes of Treble Bob Royal, with 60 courses, and was performed in 9 hrs. and 5 mins. The length of time and the masterly manner in which it was rung, will remain a surviving honour to the performers. It is allowed by all competent judges, in the noble art, to be the greatest performance ever done on ten bells. The performers were:—Geo. Gross, 1; James Barnard, 2; Francis Nay, 3; Thos. Reeves, 4; Isaiah Bray, 5; James Patrick, 6; Wm. East, 7; Abraham Smith, 8; Malachi Cannon, 9; Allen Grant, 10. Composed and called by George Gross, sen."

From the MSS. of Mr. Osborne, who would, doubtless, have his information from some of the ringers in the peal, as several would be living during his time, I gather that the bells struck off into changes at one o'clock in the afternoon, and came round at 5 mins. past 10. Mr. Osborne was most persevering in collecting information in any way connected with ringing, and in one of his MSS., opposite a copy of the last-mentioned performance from the Cumberland's peal-book, a small piece of paper is pasted between the leaves, bearing the following poetical effusion, evidently in the handwriting of the author, who was a prominent member of the Cumberlands about that time. These lines will, I think, be read with interest, as they show the strong contention that existed between the two Societies at that time:—

> " Come, ringers all, and view this church, within the steeple-door
> Twelve thousand Oxford Treble Bob was rung in eighty-four,
> In hours nine and minutes five, the Cumberlands did compleat,
> And on the twenty-seventh day of March, the College Youths they beat.
> Success unto the Cumberlands wherever they do go,
> That they may always have success to beat their haughty foe!"
>
> JOHN TICHBORNE.

This peal has never been surpassed, and I think, considering the weight of the tenor (31 cwt.), at St. Leonard's, that it will be a long time before it is again approached, let alone superseded. With this performance, therefore, I bring my remarks upon ten-bell ringing to a close; and I would remark that the fact of all the latter of these gradually increasing lengths having been rung on the same bells, and probably under almost exactly similar circumstances, they form a very fair test of the physical abilities of the different bands of ringers; but in the next article it will be seen that a very great dissimilarity exists, owing to the different weight of the rings, in the conditions under which the Treble Bob peals of note on twelve bells have been accomplished.

TREBLE BOB MAXIMUS.

On March 12th, 1758, the Society of College Youths accomplished, single-handed, at St. Saviour's, Southwark (tenor 52 cwt.), a peal containing 5,040 changes of Treble Bob Maximus, which was, as the following tablet records, the first peal ever rung in this method on twelve bells:—

> "The Society of College Youths rung in this steeple, on March 12th, 1758, a compleat peal of 5,040 Treble Bob, 12 in, in 4 hrs. 12 mins., being the greatest peal ever done before on 12 bells. John Underwood, treble; James Coxon, 2; Robert Butterworth, 3; George Meakins, 4; James Darquitt, 5; Thomas Bennett, 6; William Lovell, 7; Stephen Pickhaver, 8; William Moss, 9; Robert Bly, 10; Robert Mortimer, 11; Joseph Monk, tenor. The peal was call'd by Mr. G. Meakins."

In 1766, the Cumberland Youths, according to the annexed tablet, rang 5,136 changes at St. Saviour's, in this peal the tenor, however, was double-handed:—

> "Society of Cumberlands. On Monday, November 10th, 1766, was rung a compleat peal of Oxford Treble Bob Maximus, consisting of 5,136 changes, in 4 hrs. 8 mins., by the following persons:—Geo. Patrick, treble; Geo. Gross, 2; Thos. Dunmore, 3; Jno. Reeves, 4; Chas. Purser, 5; Isaiah Bray, 6; Jno. Purlevent, 7; Francis Wood, 8; Samuel Wood, 9; Wm. Jakins, 10; Wm. Scott, 11; Samuel Muggeridge, Wm. Lester, tenor. Composed and call'd by G. Patrick."

On February 9th, 1777, the College Youths rang, single-handed, 5,232 changes at St. Bride's, Fleet Street (tenor, 28 cwt.), and this peal they followed with one of 6,000 changes at St. Saviour's, on April 1st, in the same year. In this peal, however, the tenor man required a partner. Particulars of these peals are annexed:—

St. Bride's, Fleet Street. On Sunday, February 9th, 1777, 5,232 Treble Bob Maximus, in 4 hrs. and 19 mins.:—Winstanley Richardson, 1; Wm. Hatt, 2; Chas. Purser, 3: Wm. Mills, 4; Thos. Bennett, 5; Jno. Povey, 6; Wm. Lyford, 7; Jas. Darquitt, 8; Jos. Monk, 9; Robt. Bly, 10; Jos. Holdsworth, 11; Edmund Sylvester, 12. Composed and conducted by C. Purser.

St. Saviour's, Southwark, on Tuesday, April 1st, 1777, 6,000 Treble Bob Maximus in 4 hrs. and 58 mins.:—Winstanley Richardson, 1; Jno. Povey, 2; Wm. Hatt, 3; Wm. Lyford, 4; Thos. Bennett, 5; Chas. Purser, 6; Wm. Scott, 7; Jas. Darquitt, 8; Jos. Monk, 9; Jos. Holdsworth, 10; Saml. Muggeridge, 11; Ed. Sylvester and Wm. Mills, 12. Conducted by C. Purser.

In 1778 a still greater length, one of 6,240 changes was rung at St. Peter's, Mancroft, Norwich (tenor 41 cwt.) Still two men were required to the tenor in this peal, as will be seen from the following extract of the entry in the peal book of the Cumberland Youths:—

"St. Peter's, Mancroft, Norwich. Monday, March 16, 1778. The society rang a peal of 6,240 changes of Treble Bob Maximus in 5 hrs. and 22 mins., being the greatest performance ever done by any society:—Thos. Barton, 1; Jno. Peak, 2; Jno. Havers, 3; Wm. Warner, 4; Jno. Read, 5; Chris. Lindsay, 6; Jno. Dixon, 7; Jas. Watling, 8; Simon Watling, 9; Jno. Dye, 10; Jas. Vines, 11; Jno. Frowse and Jas. Frowse, 12. Composed and conducted by Mr. Thos. Barton."

The Norwich ringers were, as will therefore be gathered, all members of the Cumberlands' Society, and as the peal was thus entered in the books of the London division, it is probable that the rivalry which at the time was so intense between the two London Societies of College and Cumberland Youths in the matter of long-peal ringing, was not at all likely to be allowed to rest, as, after their victories in Treble Bob Royal in the previous year, the College Youths would be somewhat mortified to find that the supremacy in Maximus, obtained by the 6,000 rung in 1777, was so soon taken out of their hands. In 1784, therefore, it is not surprising to find the College Youths prepared to wrest the coveted honours from the Cumberlands by a single-handed performance which should even eclipse the double-handed efforts of the latter party, while the Cumberlands hoped to bear off the laurels to be gained by adding a ten-bell pre-eminence to the victory obtained by the Norwich section on twelve. How keen was the feeling existing on this subject is shown by the fact, that although on March 10th, 1784, the College Youths succeeded in ringing, single-handed (Samuel Muggeridge at the tenor) 7,008 of Treble Bob Maximus, at St. Saviour's Southwark, in 5 hrs. 48 mins., a peal which took its place as "the greatest performance ever done upon twelve bells," yet they were only allowed the pleasure of retaining the honour of their double success on ten and twelve bells for the short space of seventeen days; as it will be remembered that, on the 27th of the same month, the Cumberlands, who seem to have been determined to regain something of their *prestige*, accomplished their wonderful peal of 12,000 of Treble Bob Royal at St. Leonard's, Shoreditch. For some time after the ringing of the 7,008, which is recorded at St. Saviour's by the annexed tablet, each society seems to have been contented to let the rival company bear its divided honours in peace. :—

> "Ancient Society of College Youths. On Tuesday,* March 10th, 1784, was rung in this steeple a true peal of Oxford Treble Bob Maximus, containing 7,008 changes, in 5 hours and 48 minutes. Performers were :—W. Richardson, treble; W. Hatt, sen., 2; W. Hatt, jun., 3; J. Povey, 4; J. Darquitt, 5; G. Scarbrook, 6 : J. Worster, 7; Wm. Lyford, 8; J. Monk, 9; J. Holdsworth, 10; E. Sylvester, 11; S. Muggeridge, tenor. Conducted by J. Povey. This tablet was restored at the expense of the society, A.D. 1874."

The peal of 7,008, alluded to above, held its place at the head of Treble Twelve until 1802, when, on March 22nd, the Cumberlands, with James Marlton at the tenor, completed, single-handed, at St. Saviour's, Southwark, 7,104 changes, in 5 hrs. 30 mins. Further particulars of which can be gathered from the following copy of the tablet :—

> "Cumberlands Society. On Monday, March 22nd, 1802, rang on these bells a compleat peal of Treble Bob Maximus, consisting of 7,104 changes, it being the full extent of nine courses. The greatest performance ever done on twelve bells, which was compleated by twelve men only, in 5 hrs. and 30 mins. Performers were :—G. Gross, sen., treble; G. Gross, jun., 2; P. Jones, 3; James Nash, 4; Wm. Shipway, 5; Thos. Reeves, 6; J. Barnard, 7; A. Cavelier, 8; J. Hints, 9; M. Channon, 10; Wm. Stephens, 11; J. Marlton, tenor. Called by G. Gross, jun."

This peal was by J. Reeves, and contained the extent of nine courses. The same calling on ten bells amounts to 5,200 changes, and Marlton during the next year also rang the tenor to this peal on ten, at St. Mary-le-Bow, an unrivalled performance, at that time, on that celebrated ring of bells, the tenor of which weighs 53 cwt. In 1804, Marlton also repeated the Southwark performance, with the Cumberlands, at Christ's Church, Spitalfields, on the ring of twelve, tenor 44 cwt., when, curiously, the time occupied was ten minutes longer than in the Southwark peal. The Christ Church bells were destroyed by fire on Wednesday, Feb. 17th, 1836. It is worthy of remark that in the two 7,000's rung at Southwark, although the last was ninety-six changes longer than the first peal, the time taken in its performance was 18 minutes less.

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* In 1784 the 10th of March fell on a Wednesday.

Certainly the above-mentioned performances are wonderful instances of physical prowess, and although greater lengths have since been rung on twelve bells, yet, as they have all been accomplished on very much lighter tenors, it can hardly be said that any one of them can compare with the 7,000's rung at Southwark.

The Society of St. Martin's Youths of Birmingham was the next company who essayed to cut the performance of the Cumberlands, and after a lapse of eighteen years the peal of 7,104 was superseded by one of 7,200 rung at St. Martin's, Birmingham (tenor, 36 cwt.), on April 17th, 1820, in 5 hrs. 8 mins., which is commemorated by this tablet :—

> "1820, April 17th. 7,200 New Treble Bob Maximus, in 5 hrs. 8 mins., by the undermentioned persons. Conducted by Henry Cooper. Wm. Bennett, treble; Jas. Jarvis, 2; Wm. Hassall, 3; Thos. Worrall, 4; Alex. Sanders, 5; Hy. Cooper, 6; Saml. Lawrence, 7; Jos. Grayson, 8; Jos. Riley, 9; Thos. Chapman, 10; Wm. Marsh, 11; Thos. Thurstans, tenor."

It is perhaps only fair to mention that there is a legend that in the last course of this peal B. Pugh assisted Thurstans at the tenor; whether, however, such was really the case, I have not been able definitely to determine.

Twelve years later this peal was supplanted by one of 7,392 changes, rung at St. Mary's Oldham, Lancashire (tenor, 34 cwt.), in 5 hrs. 14½ mins., on March 6th, 1832 ; the tablet to record this peal is annexed :—

> "On the 6th day of March, 1832, was rung in this tower 7,392 changes of Kent Treble Bob Maximus, in 5 hrs., 14 mins., 32 secs., by the following persons :—Jos. Newton (conductor), 1; Jno. Jackson, 2; Jno. Newton, 3; Jas. Mills, 4; Jas, Jackson, 5; Thos. Nicholson, 6; Wm. Rigby, 7; Jno. Brierley, 8; Ed. Taylor, 9; Jno. Whitehead, 10; Thos. Chadderton, 11; Abram Jackson, 12; Weight of the tenor, 34 cwt."

The Oldham men did not long enjoy their new honours, as, on Dec. 9th, in the following year, the Painswick ringers rang at St. Mary's, Painswick (tenor, 28 cwt.), in 6 hrs. 50 mins., a peal of 10,224 changes.

The Painswick men, I understand, have never been celebrated for accuracy in striking, and this peal, I believe, was not struck in anything better than their usual style; but Daniel Woods, who heard the peal, afterwards took an oath of attestation before a magistrate, that the peal was true and complete. This oath was published with an interesting broad-sheet giving an account of the peal. For the information of my readers, however, I annex a copy of the tablet which commemorates this peal in the Painswick tower, and on which is also placed the record of the long peal of Stedman Cinques also rung there. I may add that the Painswick tower is one in which it is very difficult to hear the bells, and that, as I have invariably found in such cases, the ringers strike badly in proportion.

"The Painswick Society of Ringers caused this tablet to be erected to commemorate the two undermentioned peals, rung in this steeple by the following artists:—10,224 Treble Bob Maximus. Jno. Morris, treble; Jas. Savory, jun., 2; Jos. White, 3; Saml. Cook, 4; Jas. Chandler, 5; Chas. Holder, 6; Jas. Savory, sen., 7; Thos. Clissold, 8; Wm. Holder, 9; Thos. Bethell, 10; Wm. Estcourt, 11; Wm. Savory, tenor. Rung December 9th, 1833, in 6 hrs. 50 mins. Composed and conducted by William Estcourt. Isaac Vanstone, Master."

The foregoing peal has remained until the present time quite unapproached, and unless an attempt to supersede it should be made on some of our light rings of twelve, it does not seem probable that its overthrow can be accomplished; it also appears to me that each long peal accomplished can only be considered to supplant those rung on tenors of equal or less weight. I may add, that of the foregoing peals of Maximus, until the date of the Birmingham length, the ringing was in the Oxford variation; but the 7,200 rung in the "hardware" town, and also all the subsequent performances mentioned, have been in the Kent method. In my collection of Treble Bob compositions, which I hope to publish at some future date, the calling of all the lengths mentioned in these articles, that are still in existence, will be given.

TREBLE BOB TRIPLES, CATERS, AND CINQUES.

Although Treble Bob is essentially an even-bell method, as Grandsire is similarly adapted to odd numbers; yet, since it has been practised on the uneven numbers, a description of the performances first accomplished will not be out of place, as a sequel to the even-bell records. The first peal of Treble Bob Triples was one composed by J. Thackrah, and rung at St. Peter's, Huddersfield, on Nov. 5th, 1821, of which the following are the particulars:—

St. Peter's, Huddersfield. 5,040 changes of Treble Bob Triples, on Nov. 5th, 1821, by W. Haigh, 1; J. Clay, 2; J. Thorpe, 3; J. Womersley, 4; J. Womersley, 5; J. Hanson, 6; B. Thackrah, 7; S. Goodier, 8. Composed and conducted by B. Thackrah.

Since this time peals have been accomplished at Shifnal, Shropshire; Liversedge and Ossett, Yorkshire; and West Bromwich, Staffordshire: these being rung in the Kent variation. Of course, to overcome the liability there is of false changes turning up, several descriptions of calls have to be used. The greatest length as yet obtained with fourth-place bobs only is, I believe, the touch of 2,604, composed by the late Henry Cooper, of Birmingham. On Jan. 23rd, 1844, a 5,040 was rung in the combined variations of Kent and Oxford, at Shifnal, the composition of Mr. T. Day, of Birmingham. This was obtained by common bobs only.

On Jan. 7th, 1817, a peal of 5,004 changes of Oxford Treble Bob Caters was rung at St. Martin's, Birmingham; and a similar length in the "Kent" variation was completed at Aston, near the above-named town, on Feb. 13th, 1848, being the first and only peals of Caters rung in these variations.

St. Martin's, Birmingham. 5,004 changes of Oxford Treble Bob Caters, on Jan. 7th 1817, in 3 hrs. 28 mins. by :—W. Marsh, 1; T. Worrall, 2; W. Bennett, 3; H. Cooper, 4; T. Chapman, 5; G. Harrison, 6; W. Newman, 7; W. Hassall, 8; T. Thurstans, 9; J. Jarvis, 10. Composed and conducted by T. Thurstans."

Birmingham was also the first company to record a peal of Treble Bob Cinques. This performance (5,104 changes) was completed at St. Martin's, on Feb. 1st, 1832, since which time a similar number has also been accomplished, viz., at Oldham, Lancashire, on Jan. 1st, 1847. Both these peals were rung in the "Kent variation." Annexed are further details of the first of these peals :—

St. Martin's, Birmingham. 5,104 changes of Kent Treble Bob Cinques, on Feb. 1st, 1832, in 3 hrs. 47 mins., by :—T. Cole, 1; T. Chapman, 2; J. Hopkins, 3; T. Worrall, 4; W. Hassall, 5; H. Cooper, 6; J. Riley, 7; E. Roberts, 8; N. Blunt, 9; J. Bayliss, 10; J. Jarvis, 11; W. Godfrey, 12. Composed and conducted by H. Cooper.

THE SPEED OF RINGING IN TREBLE BOB MAJOR.

In connection with the long lengths of Major I stated that the time of ringing these peals presented several curious features, and upon these I now propose to make a few remarks. Upon such matters I have found that many ringers think it only necessary to say that such and such a peal "could *not* have been rung in the time," without ever considering in what time it might actually have been performed, and so far as I know, the effect that the length of the peal has upon the time has never been considered. Almost every ringer knows what should be the time for an ordinary length a few changes over 5000, as he is conversant with the times previously made in other peals of the same length; when, however, the time in which a peal of 12 or 13,000, or any unusual number, is quoted, it does not convey the same impression of quick or slow time to him. The simplest way in dealing with this matter is to express the speed of ringing in changes per minute, and it is especially suitable for comparing the rate of ringing upon the same bells. Last year I suggested to the Committee of the Yorkshire Association of Change-ringers that in the list of their performances the speed of the ringing should be represented in this manner; this was carried into effect in their last report, the speed in changes per minute being given to "two decimal places." For those of my readers who are not acquainted with decimals, I may say that this means any fractional part of a change is given in hundredth parts of a change per minute, that is 28.99 means that the speed is 28 changes and 99-hundredth parts of a change per minute, being therefore only one hundredth part of a change short of 29 to the minute. Where the speed of ringing is expressed in this manner it is particularly easy to notice any quick or slow peal, although it consists of an unusual number of changes.

The time of the 16,608 at Earlsheaton was the first thing that drew my attention to this matter, because, as the tenor was the same weight as the one at Bethnal Green, I had calculated the time for this peal at the same rate as the 15,840 rung in London, and although the Earlsheaton time was not any shorter than I expected I found that very few ringers considered the peal could have been rung in the time. My reasons for making these remarks are, however, to shew that, as nothing else was alleged against the peal at that time, and as the speed of ringing was not any quicker than might have been expected, there did not then seem to be any sufficient reason for discrediting the performance.

I believe that it will generally be found that in long lengths the ringing is much quicker than in short ones on the same bells, unless indeed the ringers are constantly accustomed to ring together on the bells; and that in peal-ringing it will be found that after the first thousand or so the bells are got along much quicker, that is, when the bells get steadier they generally get quicker. Now in a short peal of 5000 changes the time taken in thus settling down bears a much greater proportion to the whole time than it does in a long peal, and thus the average speed of ringing in a long peal is quicker than in a short one. Whether this is so might, however, be easily proved, if the time of ringing in a few peals in parts was observed, especially under such conditions as I have mentioned.*

Although heavy bells generally run slower than those of less weight, the weight of the tenor does not so much affect the speed as the way in which the bell is hung. The Ilkley tenor goes best at 28 per min., and, without clapper or hangings, it weighs over 18 cwt.; but I know several tenors of 14 and 15 cwt. that you can hardly get along at 28 per min. In judging the speed of ringing it must not, therefore, be considered surprising if a light bell should be found to run slower than a heavier one, as, although this is the case in the annexed list of Treble Bob Major ringing, I do not consider it of much importance. I will, however, point out the curious features in the speeds at which these peals were rung.

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* Since these remarks were written Mr. M. A. Wood, of the College Youths, has informed me that, in the 15,840 rung at Bethnal Green, each part occupied almost exactly 3 hrs. 4 mins. This, although rather different from what I should have expected, adds to the interest of this subject, as it shows how very uncertain are any calculations upon the speed of ringing, as, since each part consisted of 5,280 changes, if the table of peals rung at Bethnal which follows be consulted, it will be seen that the quickest time that might have been expected was 3 hrs. 11 mins.

Changes	Church.	Tenor.	Hr. Min.	Speed.
12,320	Otley.. ..	16	7—15	28·32
14,016	Oldham ..	14	7—26	31·41
15,168	Elland ..	15	8—43	29·00
15,840	Bethnal Gn.	14	9—12	28·69
16,608	Earlsheaton	14	9—48	28·23

The Otley peal does not present any peculiarity; I may, however, remark that it is a ring that will go almost as quick or slow as you like. I have known the tenor rung for a 5,088 as slow as 26·73, whereas I have rung it at 28·83 for 5,248, and 29·85 for 8,000. The speed of the Oldham peal is very extraordinary, and had I not made sure that the time I here give is that quoted on the tablet, I should doubt its correctness; a 5,024 at this speed would only take 2 hrs. 40 mins. I do not, however, doubt but that this speed *might* be reached in a long peal, as a 5,056, at St. Martin's, Tipton, tenor, 12 cwt., has, I know, been completed in 2 hrs. 45 mins.; and one of the same length has been rung on a 15 cwt. tenor at All Saints', West Bromwich, in 2 hrs. 48 mins., and as the Oldham tenor weighed about 14 cwt., it is probable that the peal *might* have been rung in the time stated. This peal is, nevertheless, the quickest of many long ones rung in the same tower, of which the annexed list gives the particulars and speeds.

Peals rung at Oldham

Changes	Method.	Hr. Min.	Speed.
14,480	Bob Major ..	8—24	28·73
15,120	" " ..	8—46	28·74
10,080	" " ..	5—30	30·54
9,999	Grand Major	5—25	31·05
14,016	Treble Bob ..	7—26	31·41

Concerning the Elland peal, as I am not acquainted with the ordinary speed of the bells, I cannot make any remarks; but the Bethnal Green one, which is next on the list, is, I consider, a remarkable illustration of my theory that the long peals are rung quicker than the short ones. Annexed is a list of the different Treble Bob peals rung at Bethnal Green, with their speeds.

Peals rung at Bethnal Green.

Changes	Time	Speed
5088	3—15	26·09
5088	3—8	27·06
5152	3—7	27·55
5184	3—14	26·72
5280	3—14	27·21
5280	3—13	27·35
5280	3—11	27·64
8448	5—14	26·90
15,840	9—12	28·69

The average speed of these peals, not including the 15,840, is 27.06, and it will be seen that the long peal was rung 1·63 per minute quicker than this. In fact to ring a 5088 at the same speed, would take slightly under 2 hrs. 57½ min., which time it will be seen has never been approached on the bells.

The following are a few of the peals rung on the Earlsheaton bells, from which it will be seen that, not including the 10,176 or the long length, the ordinary speed is 27·00, and that in ringing the long length the speed was only 1·23 quicker than the usual rate, and ·46 or nearly half a change slower than the speed in the long length at Bethnal Green. As, however, no one seems to know what number of changes were actually rung at Earlsheaton, unfortunately the time cannot be used to prove or to disprove my theory concerning the speed of other long peals, but from the foregoing remarks it seems probable that the exact length was rung. The time which would be occupied in ringing a 5088 at the same speed as the Earlsheaton 16,608 would be a few seconds over three hours.

Peals rung at Earlsheaton.

Changes	Time	Speed
5000	3—0	27·77
5056	3—6	27·18
5088	3—11	26·09
5088	3—14	26·22
5376	3—15	27·56
5888	3—46	26·05
6000	3—36	27·60
8448	5—6	27·60
10,176	6—10	27·50
16,608	9—48	28·23

My object in the foregoing remarks has been to point out how such a subject should be treated, rather than to give expression to any definite opinion on it, and although I have brought forward for consideration the theory that the speed of ringing in a long peal may be expected to be quicker than in a short one, I do not say that when the men are accustomed to the bells they *cannot* be rung as quickly in a short one. I may mention that although a 9,120 of Treble Bob rung at Holbeck, tenor 16 cwt., at 28·95 per minute, was then the quickest Treble Bob peal rung on the bells, that a 5,088 has since been rung at 29·07, and in December last I rang the tenor to 5,248 at 29·59 per minute.

CHAP. II.—ON THE IN AND OUT-OF-COURSE OF THE CHANGES.

IN AND OUT-OF-COURSE CHANGES.

It is of the greatest necessity that any one attempting the composition of peals, or seeking a thorough knowledge of the *science* of Change-ringing, should be acquainted with what is termed the "*in* and *out*-of-course" of the changes. Among other things, by this knowledge it can be ascertained whether it is possible to acquire a certain length by the system and on the principle it is proposed to frame a peal. As a simple example of this, it can be easily proved, to those acquainted with these courses, that it is impossible, by any arrangement of the ordinary bob changes and plain leads in Bob Minor, to produce more than 360 of the 720 changes that can be produced on six bells. A knowledge, therefore, of the arrangement of the changes, whether *in* or *out*-of-course, will in this case save the waste of time which would occur if any one endeavoured to realise this impossibility.

In nearly every treatise on Change-ringing the value of this knowledge is impressed very emphatically on the reader; but as the explanations published hitherto appear to me to be generally very hard to understand, and in some cases quite at variance with the truth, I shall now endeavour to state the matter so as to be at once both as simple and plain as possible.

First of all it is to be borne in mind, that the consideration of "the two courses of the changes" belongs wholly to the *science* of Change-ringing as distinguished from its *practice*, and that the word "course" is here used in a sense altogether different from that intended when speaking of "one bell coursing another," or in the expressions, "the course of a bell," "a plain course," and the like. To explain these three latter expressions would be needless for my present readers, besides leading away from the subject; I shall therefore confine myself to the former. And I may add, that although of opinion that other words might be found better adapted to express the meaning than are those actually employed, yet (to quote from Shipway) "as the use of these terms has long been sanctioned by the custom of the exercise, it is not my design to make any alteration."

As the same term in Change-ringing is often used to denote two different things, I will, before proceeding farther, fix the meaning of some of the technical terms which I shall employ.

When one bell changes its position another bell must of necessity take its place; therefore, to produce any alteration, two bells, that is a pair of bells, must be changed, and therefore by a *change* I shall mean that two bells have altered their positions. This is a single change. A double change, therefore, means that four bells, or two pairs, are altered; and a triple change, that six, or in other words three pairs, are changed, and so on.

In order that this word "change" may not be confounded with the arrangement of a certain number of bells, as 2 1 4 3 6 5, I shall call such an arrangement a *row;* the row 1 2 3 4 5 6 being the row of rounds.

When attention is required to be drawn to the fact that certain pairs of bells have been altered, either from rounds or from any other given row, it will be shown by a line drawn underneath those so altered.

A single change may be called an odd change, and a double change an even change; that is, in the first case an odd number (viz. one pair), and in the latter an even number of pairs (viz. two pairs) of bells is changed; likewise, a triple change makes an odd change, and a quadruple change an even change, and so on. The following are examples of these rows:—

(*a*) By a single change	$\underline{2\ 1}\ 3\ 4\ 5\ 6\ 7\ 8$	differs from rounds by	an odd change being made. (out).
(*b*) By a double change	$\underline{2\ 1\ 4\ 3}\ 5\ 6\ 7\ 8$		an even change being made. (in).
(*c*) By a triple change	$\underline{2\ 1\ 4\ 3}\ \underline{6\ 5}\ 7\ 8$		odd changes being made. (out).
(*d*) By a quadruple change	$\underline{2\ 1\ 4\ 3\ 6\ 5\ 8\ 7}$		even changes being made. (in).

The terms *in* and *out*-of-course are used to express whether any particular row differs from rounds by the alteration of an odd or an even number of pairs of bells. The row of rounds, and those rows which differ from it only by the alteration of an even number of changes, are called *in-course*, whilst those which differ by the alteration of an odd number of changes are termed *out-of-course.* Thus, in the above examples, the single change makes the row (*a*) *out-of-course*, the double change makes the row (*b*) *in-course*, whilst the triple change produces an *out*, and the quadruple change an *in-course* row.

The course of any given row can therefore be ascertained by altering the given row to rounds by only one change at each alteration, and if it takes an even number of changes to bring it round, the row contains an even number of changes and is *in*-course; but if, on the contrary, the number of alterations is an odd number, it is an *out*-of-course row, as example.

Given row	$2\ 1\ 4\ 3\ 6\ 5\ 7\ 8$	out.
1st change	$\underline{1\ 2}\ 4\ 3\ 6\ 5\ 7\ 8$	in.
2nd „	$1\ 2\ \underline{3\ 4}\ 6\ 5\ 7\ 8$	out.
3rd „	$1\ 2\ 3\ 4\ \underline{5\ 6}\ 7\ 8$	in.

As, in any even number—for instance, in the number 100—there are fifty even numbers, 2, 4, 6, 8, &c., and fifty odd numbers, 1, 3, 5, 7, 9, &c., so in the total number of rows that can be arranged on any particular number of bells half of them will be *in* and the other half *out*-of-course, ; that is, half will contain an even number, and the other half an odd number of changes. Thus, in a peal of Bob Doubles, sixty of the rows will be *in*, and the other sixty *out*-of-course rows. This comes to pass because any one of the 120 rows of Bob Doubles must differ from some one other row by a single change only. As the number 8 differs from the number 9 by an odd number only, so the row 2 1 3 4 5 differs from 1 2 3 4 5 by the making of one change only But it is not to be understood that these rows must necessarily follow one another in practical ringing, but that they do exist in the peal, and that they do correspond to one another in the degree mentioned.

Since I have endeavoured to illustrate my meaning by the use of ordinary numbers, I shall carry this illustration farther, and lay down a few axioms which may probably be more easily understood by first applying them to numbers before applying them to the rows.

I. If an even number be added to an even number the result *must* be an even number.
II. „ „ „ „ uneven „ „ „ uneven „
III. „ uneven „ „ even „ „ „ „ „
IV. „ „ „ „ uneven „ „ „ even „

This can easily be understood with reference to simple numbers, and can with as much facility be applied to the rows, thus :—

I.	If an even No.	of changes be made on an	in-course (even) row, the result must still be in-course.
II.	„ „ „		out-of-course (odd) row, the result must be an out-of-course row.
III.	„ uneven „		in-course row, the result must be an out-of-course row.
IV.	„ „ „		out-of-course row, the result must be an in-course row.

Examples of these axioms, showing how the alterations affect the rows in which single, double, triple, and quadruple changes are made, will be found in those given before and marked *a, b, c, d.*

I. The row (*b*) differs from rounds by the alteration of an even number of changes, and is therefore an *in*-course row : the row (*d*) is another example of this, from rounds.

II. The row (*c*) differs from the uneven row (*a*) by an even number of changes being made, and the result is an *out*-of-course row.

III. The rows (*a*) and (*c*) differ from rounds by odd numbers of changes being made, and thus *out*-of-course rows result.

IV. The row (*d*) differs from the uneven row (*a*) by an odd number of changes being made, and the result is an (even) *in*-course row.

From all this it may be inferred, that if an even number of changes is made, the row resulting is continued in the same course, but any uneven number of changes being made an alteration of the course ensues.

The foregoing principles can now be applied to any system, and having previously referred to it, I will illustrate it on Plain Bob Minor. The changes made in the rows of Bob Minor are: first, from rounds a triple change, and then from the row so obtained a double change is made. The changes run thus throughout the peal,—first a triple, and then a double change. No alteration in this rule is made either by the leading of the treble or by a bob; because in the former instance second's place is made, and in the latter instance fourth's place is made instead of sixth's (the whole pull behind). Hence, Bob Minor runs thus,—first a triple change and then a double change. The triple change will, as shown, alter the course of the rows, whilst the double change will have no effect on them, the rows continuing in the same course that they were in before the double change was made. The first row from rounds contains a triple change, and is, therefore, an *out*-of-course row; then comes the double change, which leaves the rows still *out*-of-course; then the triple change alters the rows to *in*-course, and so on, the rows running two *out* and then two *in*-course throughout.

Now by the given example of the first treble lead it will be seen that both the rows when the treble leads are *in*-course, and as the rows in all the subsequent leads will be in the corresponding course, all the rows when the treble leads are *in*-course rows, and it has been shown that the bobs have no effect on the courses; so all the rows that can be obtained by bobs or plain leads, when the treble is at the lead, will be *in*-course rows. But there are 120 rows which can be obtained with the treble at the lead, of which one-half will be *in* and the other half *out*-of-course, and so some further call is necessary to produce these *out*-of-course rows. The ordinary means is to have a "single," which implies a single change, instead of one of the ordinary double changes. This is usually, though not necessarily, made at the end of the first half of the 720 rows. For instance: supposing you call the tenor behind without the fifth, the bells would come round at the 360th row with a plain lead, the row at the hand-stroke of the treble, the 359th row, being 1 2 4 3 6 5, which will be, as previously demonstrated, an *in*-course row. Now if, instead of making a double change at the next row, a single change only is made, 1 2 4 3 5 6, you will have an *out*-of-course row, and in

1 2 3 4 5 6	in.
2 1 4 3 6 5	out.
2 4 1 6 3 5	out.
4 2 6 1 5 3	in.
4 6 2 5 1 3	in
6 4 5 2 3 1	out.
6 5 4 3 2 1	out.
5 6 3 4 1 2	in.
5 3 6 1 4 2	in.
3 5 1 6 2 4	out.
3 1 5 2 6 4	out.
1 3 2 5 4 6	in.
1 3 5 2 6 4	in.

the next half of the peal the rows will all be different; that is, where you had *in* you will have *out*-of-course rows, and *vice versâ*, as shown by the first treble lead of this half of the peal.

When the 359th row of the second half of the peal is reached, the 60 *out*-of-course rows, with the treble at the lead, will have been used, as there are 59 in this half, and to these must be added the row (1 2 4 3 5 6) in the first half, therefore another single must be called, which alters the course of the rows and uses the only *in*-course row which has not been used, which is 1 2 3 4 5 6, viz., the round.

1 2 4 3 5 6	out.
2 1 3 4 6 5	in.
2 3 1 6 4 5	in.
3 2 6 1 5 4	out.
3 6 2 5 1 4	out.
6 3 5 2 4 1	in.
6 5 3 4 2 1	in.
5 6 4 3 1 2	out.
5 4 6 1 3 2	out.
4 5 1 6 2 3	in.
4 1 5 2 6 3	in.
1 4 2 5 3 6	out.
1 4 5 2 6 3	out.

Any observations on the arrangement of the "courses" in Bob Minor would be incomplete without some allusion to the peal, obtained without the use of singles, by Mr. Holt, the composer of the well-known ten-part peal of Grandsire Triples. This peal, here given by the bob changes, is a capital illustration of the use of the knowledge of the two courses.

As already stated, the rows in this system run alternately two *out* and two *in*-course. Now Mr. Holt causes a bob to be made when the treble is in five-six, where she dodges and then proceeds in her ordinary hunting path. Although a bob does not alter the arrangement of the courses, the treble dodging behind adds two rows to the lead, and thus the rows, when the treble is at the lead, become *out*-of-course. In this state they continue until another bob, when the treble is in the same position, is called, which adds two more rows to the lead and causes the courses in the following leads to be reversed. These bobs are at a distance of thirty, that is, half the whole number of treble leads from each other, but as they each add two rows to their respective leads some means must be taken to obviate this addition. This is effected by the treble between these two dodging bobs making fourth's place in an additional bob, which shortens the leads four rows, and thus equalises the parts of the peal without deranging the courses.

By the use of the rules previously given the course of the rows in any system can be ascertained, and also whether by certain calls the full extent of the changes can be obtained.

720
1 2 3 5 6 4
4 6 5 2 1 3
1 5 3 2 6 4
1 4 2 5 3 6
1 5 4 2 3 6
1 5 4 3 6 2
4 5 6 1 2 3
1 3 5 4 6 2
1 4 3 5 6 2
1 2 5 4 3 6
1 2 5 3 6 4
1 3 2 5 6 4
4 6 5 3 2 1
1 4 5 2 3 6
1 4 5 3 6 2
1 3 4 5 6 2
1 2 5 3 4 6
1 2 5 4 6 3
1 4 2 5 6 3
1 3 5 4 2 6
1 3 5 2 6 4

In concluding this part of the subject, I may add that there are rows which may be termed simple, and others complex rows: the former being such as are recognisable at sight as to the number of changes which they contain. Thus, 2 1 4 3 6 5 is what I would term a simple, and 3 5 2 1 6 4 a complex row. There are many ways by which the course of a row can be obtained by an analysis of the position of the bells. These I now purpose to investigate, but it may meanwhile be remembered that the course of any row can always be determined by altering two bells only at one time, and observing, when rounds are obtained, whether it contains an odd or even number of changes.

ON THE ANALYSIS OF ROWS, WHETHER IN OR OUT-OF-COURSE.

Having explained the nature of the rows called *in* and *out*-of-course, I will now give some hints towards discerning the course of any particular row. Although the course of some can be seen at a glance, others are more complicated; these, however, may be so simplified, that their course can then be analysed at sight. For this last reason every attention must be paid to the course of the rows on three and four bells.

As previously stated, the simplest way, though not the quickest, of analysing any row, is by pricking it until rounds are obtained, only altering one pair, or an uneven number of pairs of bells at each operation. If rounds come up in an even number of rows (exclusive of the given row) it is an *in*-course; but if an odd number of rows are pricked, an *out*-of-course row. This arises from the facts (1), That changing an odd number of pairs each time changes the course of each row in succession, so that if any row is *in*-course the next to it is *out*-of-course, and *vice versâ*. (2), That the row of rounds is fundamentally *in*-course, hence starting from rounds and working backwards to the given row, all the alternate rows (*i.e.* the 1st, 3rd, &c.) are *in*-course, and all the intermediate rows (*i.e.* the 2nd, 4th, &c.), *out*-of-course, as will be seen in the annexed example, 3 2 5 7 1 4 6.

$3\,2\,5\,7\,1\,4\,6$ in.
$3\,2\,5\,\underline{1\,7}\,4\,6$ out (4)
$\underline{2\,3\,1\,5\,4}\,7\,6$ in. (3)
$2\,\underline{1\,3\,4\,5\,6}\,7$ out (2)
$\underline{1\,2}\,3\,4\,5\,6\,7$ in. (1)

I shall now proceed to examine the courses of rows on different numbers of bells, and also consider the order of the courses in the systems usually practised.

TWO BELLS.—The rows are 2 1 and 1 2; the first being an odd change from rounds, and therefore *out*-of-course, and the latter rounds, which is therefore *in*-course.

Even these two rows may be applied to a larger number of bells; because if other bells be added, either in front or behind, in their own positions, *i.e.* at home, it will be seen they have no effect on the course: as in examples,—

(*a*) $\underline{2\,1}\,3\,4\,5\,6\,7\,8$ out.	(*b*) $1\,2\,3\,4\,5\,6\,\underline{8\,7}$ out.	(*c*) $1\,2\,\underline{4\,3}\,5\,6\,7\,8$ out.
$\underline{1\,2}\,3\,4\,5\,6\,7\,8$ in.	$1\,2\,3\,4\,5\,6\,\underline{7\,8}$ in.	$1\,2\,\underline{3\,4}\,5\,6\,7\,8$ in.

In the first instance (*a*), the two rows are used with several bells following; then (*b*), with several bells in front of them, when the figures 8 7 and 7 8 represent 2 1 and 1 2. Again (*c*), bells are added both in front and behind, 4 3 and 3 4 being used for 2 1 and 1 2. It will therefore be seen, that any quantity of bells added *at home* on either side will not affect the known course of any given row.

It may seem that this simple fact is too elaborately explained, but it is because this principle can be applied with a larger number of bells that I wish to show it so plainly. For example: if the course of such a row as 3 2 1 (out), on three bells is known, it is available for such a row as 1 2 3 4 7 6 5 8 9, where three consecutive bells are changed. Since 7 6 5 answers to the row 3 2 1, with bells added in front and behind, and as these bells are at home and have no effect on the course of the row, you know 1 2 3 4 7 6 5 8 9 to be of the same course as 3 2 1.

THREE BELLS.—In pricking the rows on three bells, only one pair can be altered at each operation: the first row is therefore *out* and the next *in*-course. In the second row two pairs are really changed, viz., one in the first row, and another from that row, which therefore makes an even number of pairs altered. Therefore, throughout the six rows that can be obtained on six bells, the rows run alternately *out* and *in*-course.

1 2 3	1 2 3
2 1 3 out.	1 3 2 out.
2 3 1 in.	3 1 2 in.
3 2 1 out.	3 2 1 out.
3 1 2 in.	2 3 1 in.
1 3 2 out.	2 1 3 out.
1 2 3 in.	1 2 3 in.

I would again direct attention to the fact already stated, that when one pair change the position of two bells is altered. The row 2 3 1 is therefore only the result of changing the treble until it gets behind, which in this case requires it to make two changes, viz., into second's and into third's place. Although this also throws 2 and 3 into the first and second places respectively, their position being still 2 3, their course is not affected except it be through the treble. Now it is evident when the treble makes its first change into second's place (2 1 3) the row is *out*, and when it moves into third's place (2 3 1) the row is *in*-course, therefore the following rule is arrived at.

The alteration of one bell from its own position an even number of places leaves the course unchanged, but an uneven number of places causes the course to be altered.

Examples.—If from 1 2 3 4 5 6 (rounds) you remove the treble only behind, the row 2 3 4 5 6 1 is *out*-of-course, as one bell only is altered an uneven number of places. The row 2 3 4 5 6 7 1 is *in*-course, as the treble has been moved an even number of places.

On three bells, the three *out*-of-course rows are 3 2 1, 2 1 3, and 1 3 2; the second and last rows are what I have termed simple rows, and can each be seen at once to differ from rounds by the alteration of a pair of bells only.

The row 3 2 1 is more complicated, but can be analysed thus: The treble has been removed two places from its position, and therefore its situation has no effect on the course of 2 3, but as 2 3 are reversed from the position to which the treble would have altered them in moving behind, and are now 3 2, there is an odd change in them, and so the total number of changes in the row 3 2 1 is an odd number, and the row is therefore *out*-of-course.

The *in*-course rows are 1 2 3, 2 3 1, and 3 1 2. I have shown that 2 3 1 is caused by the removal of the treble only two places, and the course therefore not altered; and in 3 1 2 the third only has been moved two places forward, the course is likewise not altered. The analysis of this latter change might also be made in this manner:—The treble is moved one place, which is a single change, and comparing the position of 2 3 we find they are reversed to 3 2, which is another single change, and these results taken together make a double, that is, an even change; the result, therefore, is an *in*-course row. The row 1 2 3 is "rounds," and fundamentally *in*-course.

N.B.—The simplest way of impressing the course of these six rows on the memory I have found to be the fact that reading the numbers in order, as 1 2 3, and beginning at each number, adding the others in order behind, as 2 3 1, the *in*-course rows are had; if however they are read backwards, beginning at each number, the *out*-of-course rows turn up. Another rule is that if any *one* bell only is in its own place (in rounds *every* bell is in its place) the row is *out*-of-course. In 1 3 2, 3 2 1, and 2 1 3, the 1st, 2nd, and 3rd respectively are in their places, and these rows may thus easily be recognised as *out*-of-course rows. The other rows, 2 3 1 and 3 1 2, have *not any* bell at home in them, whilst 1 2 3 (rounds) has *every* bell at home.

FOUR BELLS.—The changes made in the rows in Plain Bob on four bells are: first, from rounds a double change, and then from the row so obtained a single change is made. The changes run thus throughout the peal, first a double and then a single change. No alteration is made from this rule at the leading of the treble, as second's place is then made instead of the whole pull behind.

The first alteration being a double change retains the rows *in*-course, the single change following then alters them to *out*-of-course, and the next being a double change keeps them *out*-of-course. Therefore the first row is *in*, and then the rows run two *out* and two *in*-course, until the last row, which is *in*-course and rounds.

1 2 3 4	rounds.
2 1 4 [illegible]	in.
2 4 1 3	out
4 2 3 1	out.
4 3 2 1	in.
3 4 1 2	in.
3 1 4 2	out.
1 3 2 4	out.
1 3 4 2	in.
3 1 2 4	in.
3 2 1 4	out.
2 3 4 1	out.
2 4 3 1	in.
4 2 1 3	in.
4 1 2 3	out.
1 4 3 2	out.
1 4 2 3	in.

Referring to those rows when the treble is at the lead, their course is known by the positions of 2 3 4, which may be *considered* as 1 2 3 represented by different signs. These six rows, which display all the permutations possible of the three figures, 2 3 4, should be well impressed on the memory, since in most course-ends the treble being at the lead is seldom pricked, and when analysing course-ends on eight bells, which are positions when 78 are at home and consequently not pricked, as 5 6 can be brought home by a method of transposition, which I shall hereafter explain, the *course* of the course-end may be known by the positions of 2 3 4.

The course of the other rows on four bells may be known by an analysis of the course of 2 3 4 read as if no other bell intervened, and a comparison of the position of the treble. Having considered the course of 2 3 4, in the position they take in any given row, then take the position of the treble, if it has been moved an even number of places, viz., into third's place, the course of the row is unaltered, and is therefore the same as the course that 2 3 4 are in. If, however, it has been moved an uneven number of places, the course is contrary to that of 2 3 4. *Examples.*—Take the row 4 2 1 3; now 4 2 3, which answers to 3 1 2, is *in*-course, and the treble being in third's place is thus altered an even number of places, and therefore does not affect the course: thus, 4 2 1 3 is *in*-course. Take the row 3 4 2 1; now 3 4 2 is *in*-course, but the treble, being moved an uneven number of places, has an odd change in its working; this added to the even number of changes in 3 4 2, renders the whole an uneven number of changes, and so 3 4 2 1 is *out*-of-course. Take the row 4 1 3 2, now 4 3 2 is *out*-of-course, and contains an odd change; the treble being moved one place also contains an odd change: these two odd changes taken together make an even number of changes, thus 4 1 3 2 may be known to be *in*-course.

In a manner similar to one of these examples the course of any row of four bells may be analysed.

FIVE BELLS.—The systems generally practised on five bells are Plain Bob, Grandsire, and Stedman Doubles, of which examples are given:—

Plain Bob.	Grandsire.	Stedman.
12345	12345	12345
21435 in.	21354 in.	21354 in.
24153 „	23145 „	23145 „
42513 „	32415 „	32415 „
45231 „	34251 „	23451 „
54321 „	43521 „	24315 „
53412 „	45312 „	42351 „
35142 „	54132 „	43215 „
31524 „	S. 51423 „	34251 „
13254 „	15432 „	43521 „
13524 out.	15423 out.	S. 45312 „
31254 „	51432 „	54312 out.
32145 „	54123 „	53421 „
23415 „	45213 „	35412 „
24351 „	42531 „	34521 „

In Bob Doubles, the changes, as the name "Doubles" signifies, are all double ones, and therefore the rows are *in*-course until the treble leads, when second's place is made, and as a single change only is then effected the course of the rows is altered. The rows, therefore, from the back-stroke when the treble leads, to the hand stroke at her next lead, are first all of one and then all of the other course.

In Grandsire Doubles, as each change is a double one until a single is called, all the rows are *in*-course until such time, and then all *out* until the next single. This is also the case in Stedman's Doubles.

I must now introduce the reader to other means of analysing the rows, namely, by the transposition of one, and afterwards of two or more bells, to their own places, by which means the rows containing five or more bells may be very easily analysed. This mode is something similar to the one previously used, of counting the position of one bell from its proper place, and then considering what effect its removal has had on the course as ascertained from the position of the other bells. I must again insist on the importance of the fact, that in making one change *two* bells alter their positions. If from 1 2 3 5 4 you transpose the fifth to its own place, a single change is only requisite, although both the fourth and fifth are altered. Again, if from 5 2 3 4 1 you transpose the fifth home, the result reads 1 2 3 4 5. Now the fifth has been transposed four places, and the treble four, but if this is written out, changing one pair at each operation, as example, it will be seen to require seven changes only, not eight. This is because, although each bell is transposed four places, one of the changes acts in bringing the other bell forward one place. Referring to the example it will be seen that the first four changes bring the fifth home, and advance the treble one place; therefore, to bring the treble into the position that transposes it with the fifth only requires three more changes.

$\underline{5\ 2\ 3\ 4\ 1}$	
$\underline{2\ 5}\ 3\ 4\ 1$	Four changes.
$2\ \underline{3\ 5}\ 4\ 1$	
$2\ 3\ \underline{4\ 5}\ 1$	
$2\ 3\ 4\ \underline{1\ 5}$	
$2\ 3\ \underline{1\ 4}\ 5$	Three changes.
$2\ \underline{1\ 3}\ 4\ 5$	
$\underline{1\ 2}\ 3\ 4\ 5$	

As what I have explained would necessarily follow if *any* two bells were transposed, *i.e.*, it is not necessary that either of them be transposed *home*, this rule is therefore arrived at.

The transposition of any one bell with any other can only be effected in an uneven number of changes. Therefore if one bell be thus transposed the course of the row resulting is opposite to that of the row from which the transposition is made.

Even supposing the bells selected for transposition be distant an odd number of places from each other, the rule will hold good. Because, as each bell is transposed the same number of places, the total number of places they are transposed would be an even number (as any two odd numbers make an even number), but when the one place is deducted which the transposing the one bell will forward the other, the result is necessarily an uneven number.

Any row of five bells may be most easily analysed by transposing the fifth home, and then analysing the position of 1 2 3 4, remembering that in whatever course they are then found that the given row will be of the opposite course.

SIX BELLS.—In plain Bob, as explained in a former chapter, the first row is *in*, and then the rows run two *out* and two *in*-course alternately until a single is called, when the courses are reversed.

In the Kent variation of Treble Bob Minor the rows run as shown in the annexed example. If the treble lead be pricked in full, it will be seen that the rows from the treble passing into the middle on the way out until it reaches the same place on its way down, are alternately two *in* and two *out*-of-course, and that in each treble lead the rows with the treble in the same place are half of them of one, and the other half of an opposite course, and therefore singles are not required, as in plain peals, to turn the course of the bells, and thus the whole of the 720 rows can be produced by Bobs only.

1 2 3 4 5 6
2 1 3 4 6 5 in.
1 2 4 3 5 6 out.
2 1 4 3 6 5 „
2 4 1 6 3 5 „
4 2 6 1 5 3 in.
4 2 1 6 3 5 „

* * *

2 3 1 5 4 6 out.
2 1 3 4 5 6 „
1 2 3 4 6 5 „
2 1 4 3 5 6 in.
1 2 4 3 6 5 „
1 4 2 6 3 5 „
4 1 2 6 5 3 „
1 4 6 2 3 5 out.
4 1 6 2 5 3 „
4 6 1 5 2 3 „

The rows of six bells can be easily analysed by transposing the fifth and sixth home, and then analysing the course of the four remaining bells. When two bells are transposed with two others, their transposition has no effect on the course of the row, the row resulting being of the same course as the given row. The reason of this is, if the transposition of one bell with another gives an uneven number of changes, performing this operation twice will give two uneven numbers of changes, which taken together give an even number of changes.

Examples.—5 2 6 4 3 1. Transpose 3 with 5, and 1 with 6, when the row will read 3 2 1 4 5 6; now 3 2 1 4 may be seen to be *out* of course, and therefore 5 2 6 4 3 1 is *out*-of-course. Supposing one of the bells to be transposed to occupy the place of the other, as in the row 6 2 1 3 4 5. Transpose the fifth to its place, which will bring the fourth to sixth's place; then transpose the fourth with the sixth, the row will therefore read 4 2 1 3 5 6; knowing 4 2 1 3 to be *in* course, 6 2 1 3 4 5 is therefore *in* course. Should the two bells you wish to have at home be in the places of each other, as 3 1 4 2 6 5, the simplest way, since they cannot be transposed except with each other, will be to consider that 6 5 have an odd change in them, and therefore the result will be contrary to the course that 3 1 4 2 are found to be in, which in this case proves the row to be *in* course.

From what I have already shown, I hope the reader will now be able to ascertain for himself the working of the courses in any variation and on any number of bells, and that it is therefore unnecessary to proceed to higher numbers. On seven bells, when the treble is at the lead, by transposing 6 7 home the rows can easily be analysed, or if the treble is in the work 5 6 7 can be brought home, which will of course have the effect of an uneven number of changes. On eight bells the course-ends can be analysed by transposing 5 6 home, and any row by transposing 5 6 7 8 home.

I must conclude with an acknowledgment of my thanks to Mr. Hubbard, as it was from the information contained in his work, on the analysis of the course-ends on eight bells, by the transposition of 5 6 home, with the effect produced by the position of the treble, that I was first led to look into the reasons for these deductions, and to apply them to gradually increased numbers of bells.

Finally, I hope that what I have advanced on the course of the rows, although it may seem lengthy to those acquainted with the subject, is yet rendered so simple as to be understood by those who were not previously possessed of this knowledge. I would also express my opinion that too deep a *mystery* has been made of this very simple matter, and that, like everything connected with the great science of Change-ringing, the more it is examined in detail, the more its wonderful simplicity becomes apparent.

CHAP III.—THE MODES OF PRICKING TOUCHES AND PEALS.

THE object of the remarks, in this and the following chapter, is to enable those persons who are ignorant of the mode in which Treble Bob Major is pricked, by the treble lead-ends or the course-ends, to understand the same, and also to enable them to distinguish between the different qualities, musical or otherwise, of such peals.

To many persons this information will seem unnecessary, but from the extraordinary amount of ignorance which I know prevails amongst many really good practical ringers, I believe there are persons to whom it will be of much interest; and all ringers may be assured, that until they have mastered these very rudimentary details they can never take part in conversation on, or in the discussion of, such matters, nor can they ever expect to become conductors understanding what they are calling.

In composing touches it would be a great waste of time, and practically impossible, to prick every change. Several condensed modes of expressing different numbers of changes are therefore used: these comprise pricking (1) by the "treble lead-ends," (2) by the "bob changes," and (3) by the "course-ends." A touch given by the treble lead-ends means that the change produced at the back stroke of each full lead of the treble is only given; in Treble Bob Major this is every thirty-second change. As the treble is, of course, the first bell at each of these changes it is omitted in pricking: this practice is also followed in all modes of pricking with any bells which are behind at any regular intervals, as will be explained in pricking by the course-ends.

If the plain lead of Kent Treble Bob Major, given at a previous page, be referred to, it will be found that the change at the treble lead-end is (omitting the treble) 4 2 6 3 8 5 7, or, if a bob is made at the lead end, 4 2 3 5 6 7 8. This information will therefore allow any touch to be pricked by the lead-ends, because, if a plain lead from 2 3 4 5 6 7 8 gives 4 2 6 3 8 5 7, and a bob lead from the same change gives 4 2 3 5 6 7 8, to get the next plain lead or bob lead from any other lead-end, the bells will have to be moved from the given lead-end in the same manner, for a plain or bob lead, as the first lead-end is from 2 3 4 5 6 7 8: that is, the bell in fourth's place to second's, the bell in second's to third's, and so on. The first of the following examples gives the lead-ends of the plain course, and the second those of a short touch, in which the bob leads are shown by the marks in front. In pricking, it is usual to give at the head of the changes the change (generally rounds) from which the pricking commences.

224	288	640
2345678	2345678	2345678
4263857 M.	4263857	8642735 ^{3}
6482735	-6423857	3574286 ^{4}
8674523	2684735	7354286 ^{1}
7856342 B.	8276543	2573648 ^{2}
5738264	-7826543	8672453 ^{3}
3527486 W.	2758364	5347286 ^{4}
2345678 H.	5237486	4537286 ^{1}
	-3527486	Round at
	2345678	two leads.

The last of the above touches is given by the "bob changes," that is, the lead-ends where bobs are called are only given. In this mode numbers are sometimes, as in this case, placed on the right-hand side, between the different bob changes, showing the distance in number of leads at which each bob lead occurs from the previous one. To prick by the bob changes, without pricking the intermediate plain leads, it is necessary to construct a table of bob changes. This is done by pricking a bob at each of the different leads of a plain course, as in the annexed table. The results can then be applied for producing the bob change at any successive lead which may be required.

A bob at the		2345678
First lead gives		4235678
Second	„	6423857
Third	„	8642735
Fourth	„	7864523
Fifth	„	5786342
Sixth	„	3578264
Seventh	„	2357486

If the touch of 640, previously given by the bob changes, is referred to, it will be seen that the first bob change occurs at the third lead, and also, by referring to the above table, that it is correctly given as 8 6 4 2 7 3 5; the next bob change occurs at the fourth lead, and the table gives 7 8 6 4 5 2 3 for a bob at the fourth lead. The table however, is constructed from 2 3 4 5 6 7 8; to find the correct bob change in the touch the figures at the previous bob (8 6 4 2 7 3 5) must therefore be transposed in the same order as those in 7 8 6 4 5 2 3 are from 2 3 4 5 6 7 8. Although touches in which the tenors are parted are sometimes given by the bob changes, it is not a method of representation very frequently used in Treble Bob, as touches are generally given by the "course-ends." Still, as these course-ends are constructed and used in a somewhat similar manner, I would advise my readers thoroughly to understand, before proceeding further, how such a touch as this 640 is pricked.

Some of the terms used in the previous paragraph require, perhaps, a little further explanation. The "tenors," as the heavy bells—in Treble Bob Major 7 and 8—are called, are said to be "parted" or "separated" when any bob is called which alters their positions in ringing, so that they do not work in the same relation to each other as they do in the plain course. The relation they bear in the plain course is that, except for certain leads, they course each other, and their position in ringing, as they sail up and down amongst the other bells, is at any time easily recognised, and any one acquainted with these positions can at once discern by the different music produced if they are parted. I may here remark that the treble lead-ends and bob changes of the two Treble Bob variations Oxford and Kent, are similar, and therefore the calling of the one method may be used for the other, in which it will produce the same lead-ends and therefore the same number of changes. When, in the following pages, I allude to "Treble Bob," I shall therefore be speaking of these two variations.

Although for all purposes of composition these variations are similar, yet, for the same reason that I prefer the music of a peal in which the tenors are kept together to one in which they are parted, I prefer the Kent to the Oxford variation. In Oxford ringing, the tenors, although coming into the same places at the lead-ends as in Kent, are sometimes widely parted. In Kent the tenors are only separated during the two leads, in which one and then the other of them, is in the slow hunt, and thus they course each other during five out of the seven leads, of which the plain course is composed. Now, in Oxford, the lead before going into the hunt the tenor goes down and makes third's place and returns behind, while the seventh goes on down undisturbed to the front. They are thus separated one lead before the tenor goes into the hunt, and as the place-making also keeps them from coming into coursing order until the end of the lead after the seventh has left the hunt, in Oxford the tenors are therefore parted, for four out of the seven leads in the plain course. Not only is the music of Kent, in my opinion, preferable to that of Oxford, but the place-making that separates the tenors in the latter variation also disturbs the working of all the bells, so that it is also a method in which the conductor has much more difficulty in watching whether the proper coursing order is preserved amongst them. These are the reasons that have, probably, contributed to make the Kent so much more generally practised than the Oxford variation.

In every recognised method there are certain places in which bobs can be called without causing the tenors to be parted. In Treble Bob the tenor is generally the observation bell, that is, the bell by which the bobs are called;

and the places at which bobs can be made, without parting it from the seventh, are four, namely:—the "Middle," "Before," "Wrong," and "Home." These positions are generally signified by the initials, M., B., W., and H.; and if the lead-ends of the plain course previously given be referred to, these letters will be found affixed to the leads when the tenors are in these positions,

The M. is the lead-end at which the tenor dodges, in 5-6 down, back into sixth's place, the seventh then being in 7-8. The W. is when it dodges in 7-8 on the way out, and is in seventh's place at the lead-end, this place is called "Wrong," in contradistinction to the next lead, when it dodges in 7-8 down, and is at "Home," or "Right," as it is called, when it is in its original place at the lead-end. As a bob causes the bells behind, that is those in fifth's, sixth's, seventh's, and eighth's places, to retain the position they were in at the previous lead, it is evident that for a bob at any of the places, M., W., and H., the tenor has to be allowed to fall into the position, in which the bob is to be called, at the lead-end previous to that at which the call is to be made, and thus each bob in any of these places will lengthen the "course" a lead. When the lead-end, which has 7-8 at home, comes up, if you do not have any bobs at H., or when you have had the last of the bobs at H., when any such are to be called, the lead-end then produced is called the "course-end." If there are two bobs called at each of the positions, M., W., and H., the course will be lengthened six leads; this is technically known as a "long" or "full" course. If this course is pricked, the change at the course-end, leaving out 1 and 7 8, which, as they are always in their own places at the course-ends, need not be pricked, will be 5 2 3 6 4.

There is another position at which a bob can be called without parting the tenors, this is where the tenor and seventh, respectively, go out and into the hunt; a bob in this position is known as a bob "Before," such a bob however, does not lengthen the course. When, as is generally the case, Treble Bob is pricked by the course-ends, the number of bobs to be called at each of the positions, M., W., and H., is written under these initials on the right hand side of the course-end, any bobs "Before" being signified by a mark under the letter B., or in some cases by a mark (generally a dot) to the left of the course-end. A course in which a bob B. is only called, only contains seven leads, and is known as a "short" course.

If a table of course-ends, as previously given, be prepared by pricking the results produced by calling all the different combinations and numbers of bobs that can be had at the various places, it can then be used for pricking by the course-ends. The table will, of course, be prepared from rounds, and so by finding the result of the calling of any specified course, and transposing your last course-end in the same way as the one in the table is from rounds, you are able to proceed and thus to express a peal in a very concise manner.

As peals may be found in the following pages which will serve as examples of pricking by the course-ends, it will not be necessary to produce any here; I may, however, remark that it is very necessary, especially in proving peals, to remember that the calling given *after* the course-end is that which produces it. Custom has so long sanctioned this position of the calling *after* the course-ends, that it would perhaps be unadvisable to make any alteration, but it is evident that if the calling preceded the course-end, the calling would be followed by the result, instead of the result preceding the calling. Probably this has been brought about by the calling of the different courses being at first placed to the right of the course-ends and on lines *between* them, then to facilitate the setting of peals into type this has been abandoned, and the calling has been placed in a line with, and *after*, the course-end it brought up. I may conclude these remarks by stating that the course-end, 1 M., 1 B., 1 W., will not be found in any table of course-ends, as it produces the same change at the end of the course as that from which it commenced, it is therefore a nine-lead touch from rounds.

CHAP. IV.—THE QUALITIES OF PEALS.

HAVING described the different ways in which peals of Treble Bob are pricked, I will now proceed to explain the technical terms in which the qualities of such peals are defined.

The Tittum Position.—In change ringing the musical effect that can be produced, depends almost entirely on the order in which the heavy bells are coursing one another. For instance, in major ringing, when the heavy bells are coursing each other in the order of 8-7-6 they are in the most musical, or as it is termed, the tittum position. The sixth is then in the place the fifth occupies in the plain course, and will therefore be in fifth's place at the course-end. The full number of lead-ends that can be had, without repetition, with the sixth in fifth's place, when the tenors are at "home," is called "the extent of the tittums." When the heavy bells are in the tittums, and they come together behind, they strike 8 6 7, which is a very melodious termination to any change. The bells behind at an M. lead, after a tittum course-end, will be 8 6 7, and the music of a peal will be greatly improved if all these lead ends with 8 6 7 behind are obtained.

On ten and twelve bells as bobs, called at M., W., and H., only affect the working of 2 3 4 5 6, the other bells fall into their regular positions, 7 8 9 0, whenever they come behind. These bells can, however, be thrown into the tittum position, when the music will be very much improved. The lead ends for the calls at M., W., and H. are when, on ten bells the ninth, and on twelve the eleventh, fall into these positions, as in the annexed examples.*

TEN BELLS.	TWELVE BELLS.
W. 352748690.	W. 352749608ET.
H. 234567089.	H. 23456789TOE.
M. 426305978.	M. 426385T7E90.

A bob "before," in any course, will throw these bells into the tittum position; they may be brought back into the ordinary position by calling the tenor to make fourth's place, and into the hunt at the following bob.

The sixth at home.—When the bells are coursing 6-8-7 they strike 6 7 8 when they come together behind. The bells behind at the W. lead will be 8 6, and those behind at the course-end 6 7 8. The sixth is then said to be

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* The letters O., E., and T. are used to signify the tenth, eleventh, and tenor bells.

"at home," or "right." When it is in fifth's place—the tittum position—it is said to be "wrong." It is generally the object in composing a peal to have, if possible, the sixth its extent wrong and right in 5-6, as, by this means, a large number of the most musical changes will be introduced. In addition to this, as many as possible of the lead-ends with 8 6 7 and 8 6 behind, should be introduced. When all of them are brought up, the peal is described as containing "all the 8 6 7's and the 8 6's." If the sixth is also its extent both ways in 5-6, the whole may be described as having "the sixth the extent in all positions," meaning all the positions in 5-6-7-8 at the lead-ends when the tenors are also in some of these places.

The extent, or number, of lead-ends that can be had with certain bells in any one position, of course depends on the number of changes that can be worked by the bells that are not required to be in the same place each time the other bells come up into this particular position. With, for instance, 6 7 8 behind and the treble at the lead, only four bells remain to work into each other's places and produce a different change each time the treble and 6 7 8 come up in this specified position. Twenty-four such changes can therefore be obtained, but as twelve of these are *out*-of-course changes they cannot come at the lead ends, the extent of the 6 7 8's is, therefore, the twelve *in*-course lead-ends with 6 7 8 behind. As the twelve *out*-of-course changes, with the treble at the lead and 6 7 8 behind, occur however, at the dodging strokes of these leads, the whole of the 24 changes with these bells in this position are actually produced. These twelve leads can, by having a double bob at each course-end, be brought up in so few as the last four courses of a peal, while they have been obtained, in peals with the tenors parted, one only at the termination of each course-end. The different peals in the collection which I propose to publish will, however, show what has already been done by composers in this and other matters.

The fifth and sixth the extent.—A peal is said to have this property when the fifth and sixth bells work their extent each way in 5-6 at the course-ends. As each bell must be, at the least, four course-ends each way, the least number of courses in which such qualities can be produced might be supposed to be sixteen: they can, however, be brought up in fourteen, as, at two of the course-ends, the bells in 5-6 will be 6 5 and 5 6, two of the course-ends being thus "common" to the two bells. In such peals the music is good throughout, especially when there are not many bobs "before" introduced.

The sixty course-ends.—When 7 8 are behind at a lead-end the change is one which may be the termination of the course. In this position there will be five bells left to produce different changes; 120 such changes can therefore be had, of these the sixty *in-course* changes can occur at the lead-ends, when the other sixty, *out-of-course*, will be produced at the dodging strokes of the treble. A peal consisting of twenty courses with a double bob at H. at the end of each course, will therefore have three of these leads with 7 8 at home in each course. In these twenty courses therefore, the sixty lead-ends with 7 8 at home will be produced, and as each of these lead-ends is a change that might be produced at a course-end, the peal is said to have the sixty course-ends.

In Bob Major and other plain methods, 120 course-ends can be had, as the 60 *out-of-course* changes can, by the use of singles, be produced at the lead ends, and for this reason a peal of Treble Bob containing the sixty course-ends. is sometimes spoken of as containing the 120 course-ends, although in this method only sixty of them occur as actual course-ends.

The sixty 7 8's before.—There are 120 changes to be had with the treble at the lead and 7 8 in second's and third's places, or as it is called "before," in which position they are in the plain course when the tenor leaves the hunt. Now, sixty of these are *in*-course changes, and it might therefore, be supposed that sixty leads with 7 8 before could be had. This, however, is not the case, as if the plain course be examined, it will be seen that one of the dodging strokes of the treble, when the bells before are 1 7 8, is also an *in*-course change. In each course therefore, *two of the sixty in*-course changes with 1 7 8 before are required. The sixty 7 8's before cannot therefore—unless the tenors are parted—be brought up in a greater or less number than thirty courses.

The extent with the Tenors together.—For the foregoing reasons it is evident that only thirty courses can be had with the tenors together. The number of changes in these courses, supposing they each contained only seven leads, would be 224 (the number of changes in a plain course) multiplied by 30 courses, that is, 6,720 changes. This would be the extent with the tenors together, if the calls that could only be made in Treble Bob, without parting the tenors, were such as did not augment the number of changes in a course.

As five bells are shifted into different positions at the course-end by using a bob "before," it is evident, if such bobs only are used, that only five courses can be obtained before the bells fall into the same position as that from which they started. To obtain the thirty courses which the tenors can work together, it will therefore, be necessary to make use of calls at some of the positions of M., W., and H. Calls in these places will, however, augment each course a lead for every call. Now, as the *in* and *out*-of-course disposition of the changes does not prevent sixty lead-ends with 7 8 at home from being brought up, it is evident, that besides the thirty lead-ends for this position required for each course in which the tenors are together, there are also thirty additional leads, with 7 8 home, available for augmenting these courses by calling bobs at H., and in like manner there are also thirty lead-ends available for calls at the positions of M. and W. There are therefore, thirty leads at each of the positions of M., W., and H., available for introducing into peals with the tenors together. These thirty leads multiplied by thirty-two (the number of changes in a lead), and by three for the positions of M., W., and H., give 2,880 changes, and make, with the 6,720 changes in the thirty seven-lead courses, a total of 9,600 changes with the tenors together, to work upon.

The object in composing long lengths with the tenors together is therefore, to get as many of these bobs as possible into the courses. It is perhaps worthy of remark that the long length of 8,896 changes, obtained by Mr. W. Harrison, of Mottram, only contains twenty-nine courses, one course having been sacrificed to allow the others to be extended by bobs ; the result being that the total number of changes is the greatest yet obtained with ordinary bobs only. Twenty-two leads only being required to make up the 9,600. Mr. J. Lockwood, of Leeds, has obtained 9,119 changes with the tenors together, and using ordinary bobs only ; at this point, however, he brings the bells round at the 9,120th change, by making use of an extra call. He has therefore, demonstrated the possibility of using all but fifteen of these leads.

Peals in Parts.—Every peal must consist of one or more parts, and may be classed among five-part, three-part, two-part, or one-part peals. A five-part peal is one in which, after certain calling, five bells are removed from their original places, this calling must then be four times *repeated* before they again come into their original positions. As 5,120 changes contain the least number of treble leads which is a multiple of five, and, when multiplied by the number of changes in a lead, is over 5,000, it is the usual number for a five-part peal. The increase of one lead in the first part will, of course, increase the other parts each one lead, the result of an additional lead in a five-part peal is therefore 160 changes. As the object in composing is generally to get the most musical qualities in the least number of changes over 5,000, and the five-part plan is not favourable to the development of such properties, five-part peals over 5,120 changes, unless they run into other thousands, or are possessed of some other redeeming feature, are not of much value, and indeed five-part peals are, generally, only selected, for their simplicity, by young and inexperienced conductors.

A three-part peal cannot consist of a less number than 5,088 changes, the next increase being to 5,184. This plan is capable of comprising a fair number of musical changes, as peals with the fifth or sixth one way in 5-6 at each course-end may be had; some very poor productions on the three-part plan have, however, been composed and conducted.

Two-part peals can be produced with only 5,056 changes, the plan is also well adapted for producing good peals; the one-part plan, however, allows most freedom in composition, and can contain so few as 5,024 changes.

A few peals have been rung in which the changes have been reduced by mutilating a treble lead to produce a number unobtainable by ordinary means, for instance, a 5,024 cut down to 5,000; this is a proceeding that I think very undesirable. The peal is composed before the changes are cut out, and there is therefore, no skill required in such butchering. I do not wish my remarks, however, to be taken as applying to date touches, which often require some patience and ingenuity to construct; in these, however, it should be remembered that the variation from the method should be as little as possible, and confined to one or two changes *only*.

CHAP. V.—THE TRANSPOSITION OF PEALS.

Before proceeding to explain the proof and mode of composition of Treble Bob peals, I will first explain several ways in which peals can be altered in the arrangement of the calling, so that, unless carefully examined, they may easily be mistaken for different compositions.

The principles upon which these variations are produced should be thoroughly understood by all ringers, and especially by all composers, for although the former may assist in ringing as a new peal a variation of one which may be a hundred years old, the latter may not only assist in the ringing, but may also put himself to much trouble and make himself the laughing stock of the exercise by reproducing a variation of some well-known peal and putting it forth as an original composition.

It seems probable that transposition has been resorted to, by persons unable to produce original peals, merely to vary the productions of others; to these variations they have then attached their names: for this reason, I will not therefore confine my explanation solely to the application of these principles to Treble Bob. Of course, a composer may, in perfectly good faith and with the most honourable intentions, reproduce an old peal and be unaware of the fact. If any one, however, takes upon himself to attach his name to a peal, it is his duty to use every endeavour to assure himself that he has not reproduced an old one. Although, if for this reason only, every composer should be acquainted with these principles, he will also find them of much use in varying any original composition he obtains, so that it can at once be sent out in the best possible form into which it can be transposed.

It should always be remembered that the beginning and end of a peal have only as much connection as any two other consecutive changes in the peal. I mean, that if instead of calling "this is all," the conductor let the bells run on and went on (beginning again, that is) with the calling, the ringing might go on *ad infinitum*, and thus, if you were to take any change in the peal, you might ring until you came to the same place again, just as if these places were the beginning and end of the peal. If you therefore imagine the change of "rounds" to occur in any treble lead in the peal, if you "go off" from that place and take up the calling at that position, you will come round at the change previous to the one whereat you started. Thus, in any peal of triples, the calling can be altered by commencing with any one of the bobs in the peal, provided only the first call is made so that the number of plain leads to commence with does not exceed the number between that call and the previous call in the original peal. By beginning at each of the several calls, as many variations as there are calls in one part of the original composition may be produced, the only difference will be that the bells in certain positions at the part ends will be altered. Besides varying a peal in this manner you can alter each of these variations by making the first call at any one of the leads which separates it from the previous call, and thus get as many peals as there are leads in each part.

For an instance of this mode of variation take the two peals annexed. The first of these is a peal of Grandsire Triples, by Shipway, which was published in his work in 1816. This peal is in five parts, without a single, but with a fifth's place bob (marked *), in each part. The second of these peals is to be found in Wm. Sottanstall's work on Change-ringing, published in 1868, where it is dated as having been composed by him, on Feb. 2nd, 1865. Now the only difference in the two peals is that, in the latter, the fifth's place bob is at the fourth lead, and after this point the bobs run at exactly the same number of leads apart as in Shipway's peal. The only practical difference caused by beginning at this point is that, in the second peal the fourth is at home at the part end instead of the seventh in Shipway's peal. Another example of Shipway's peal, commencing at a different lead from this one, is also to be found, with Mr. Sottanstall's name attached to it, in his work. Now, how these peals were obtained by Mr. Sottanstall is a matter of no consequence, as they are merely the simplest variations of Shipway's peal, and if produced by legitimate means, are still only Shipway's peal commenced in various places. Mr. Sottanstall has been equally unfortunate in the similarity all his compositions in Grandsire Triples bear to those of well-known composers. In his work there are thirteen peals to which his name is attached, but I do not see that any one of them can be claimed as an original composition. No. 1, to which is appended—"by Wm. Sottanstall, Feb. 13,

SHIPWAY'S PEAL.		A VARIATION.	
2 3 4 5 6 7		2 3 4 5 6 7	
5 3 2 7 4 6	5	*2 4 5 3 6 7	4
7 3 5 6 2 4	5	6 7 2 5 3 4	2
4 6 7 2 3 5	1	5 7 6 4 2 3	5
3 5 4 7 2 6	2	4 7 5 3 6 2	5
7 5 3 6 4 2	5	2 3 4 6 7 5	1
6 5 7 2 3 4	5	7 5 2 4 6 3	2
4 2 6 3 5 7	1	4 5 7 3 2 6	5
3 2 4 7 6 5	5	3 5 4 7 6 2	5
6 5 3 4 7 2	2	2 6 3 7 5 4	1
3 7 6 5 2 4	3	7 6 2 4 3 5	5
4 5 3 2 7 6	1	3 5 7 2 4 6	2
7 6 4 3 2 5	2	7 4 3 5 6 2	3
5 3 7 2 6 4	1	2 5 7 6 4 3	1
2 3 5 4 7 6	5	4 3 2 7 6 5	2
4 3 2 6 5 7	5	5 7 4 6 3 2	1
6 3 4 7 2 5	5	6 7 5 2 4 3	5
2 5 6 4 7 3	2	2 7 6 3 5 4	5
4 5 2 3 6 7	5	3 7 2 4 6 5	5
7 3 4 6 5 2	1	6 5 3 2 4 7	2
6 3 7 2 4 5	5	2 5 6 7 3 4	5
*6 7 2 3 4 5	4	4 7 2 3 5 6	1
4 5 6 2 3 7	2	3 7 4 6 2 5	5

1865," is a 5,012, which only differs from Hill's peal, published in Shipway, in 1816, by commencing at a different lead; three other modifications of this peal are given. No. 5, dated "Feb. 20, 1865," is, unfortunately, the same as Reeves's variation of Holt's ten-part peal, the only difference being that the halves are reversed. Nos. 6 and 7 are the same as Holt's one-part peal, with a slight variation of the singles and the changes running between them. Nos. 8 and 9 are the ones first alluded to, and the remaining peals are variations of one, which is given in the work, by Mr. James Lockwood, of Leeds. These are striking instances of the importance of every composer assuring himself, by comparison, that he is not reproducing old compositions, as here we have thirteen peals, all of which turn out to be merely variations of well-known originals.

In Treble Bob or similar peals, where the tenors require to be kept together, it will not do to commence the calling at any lead, as, although the peal would still be true, the tenors might, in some cases, be parted. The simplest way to proceed is to commence with the different courses; for instance, take the peal of 5,120 of Treble Bob Major, in five parts, by J. Reeves, given below, marked A: this can be varied by commencing with the calling of the second or third course, and will then produce the peals marked B and C:—

A				B				C			
23456	M.	W.	H.	23456	M.	W.	H.	23456	M.	W.	H.
56342	1	2	2	24536		1	2	24536		1	2
53462		1	2	25346		1	2	36452	1	2	2
54632		1	2	46532	1	2	2	34562		1	2

There is another way of varying certain peals, which actually changes the number of bobs in the peal, without making any difference, except, that by the admission or omission of certain bobs in certain places, the peal branches off into a different *part* of the original, and in the other parts will take up the changes at the place where it first branched off. A familiar example of this is Reeves's variation of Holt's ten-part peal. In Reeves's variation an additional bob "before" is introduced into each part, the only difference this causes is very easily comprehended. The first fifteen leads of both peals are exactly the same: at the sixteenth lead in Reeves's peal a bob "before" is called—this bob, however, merely brings up the same lead-end that occurs, with a plain lead, at this point in the fourth part of Holt's peal. The calling of both peals is then exactly the same to the end of the part, when, of course, the first part end in Reeves's peal is the same as that produced at the fourth part-end of Holt's peal. The part-ends in each peal are therefore, similar, although arranged in different order, and as they are the same as the lead ends of a plain course, there is this to be said for Reeves's peal, if indeed it is a matter of any practical value, that in it the part ends come up in the same order as the leads follow each other in the plain course, and the parts in the first half will run round true from any of the different part-ends.

In three-part peals, especially in such a variation as Double Norwich Court, there are many instances in which a bob can be called or omitted without disturbing the working of the bells at home at the part-ends, or rendering the peal untrue. Although this will cause the number of bobs in the two peals to be different, the only real difference will be that the parts, or course ends, merely come up in a different order. In Treble Bob, a bob B. can often be omitted or called, the change then produced being merely one that would turn up at the "before" in some other part of the peal.

As all compositions entirely depend upon the number of leads apart at which the bobs occur, on consideration, it will easily be understood, that if a peal is reversed, that is, if the order in which the bob leads are apart is inverted, the result will be a true peal. This is evident from the fact that if a Treble Bob peal was pricked out, going off from the change at the hand stroke of the last treble lead, and the bob changes were placed in reversed order, the very changes in the original peal would actually occur in inverted order. The number of treble leads apart at which the bob changes occur will therefore, if inverted, give a curious variation of any peal. In all compositions the effect of such reversing upon the tenors must be considered, as, to be of any practical value, the reversing should be effected without separating them. In Bob Major, for instance, suppose the original peal had the tenors together, and ended with 1 M. and 1 H., the reversed peal must begin with a bob at the first lead, but not at the second lead also, as this would separate the tenors; but if the other bob is kept for the end of the peal, reversing the bobs from this point will have the effect of causing the bobs at the M. in the original peal to take the place of the W.'s in the new one, and *vice versâ.* In Treble Bob Major, in the same way, you must commence, as it were, behind the bobs at home in the course from which you begin to reverse: in this way you will commence with a plain lead which brings up the M., which corresponds to the W. in the original peal, and the bob leads then follow at the reversed distance apart, all the W.'s coming at the M., and the M.'s at the W. in the new peal. As bobs B. are equi-distant between the M. and W. leads, any calls at this place fall into the proper position of "before" in the new peal.

As the method of pricking a peal backwards may probably not be very easily understood, the following explanation will perhaps make it clear:—In the peal A, previously given, the numbers of the leads at which the bobs are called in each part run thus: 2, 6, 1, 2, 1, 7, 2, 1, 7, 2, 1. Now you must commence with the last bob at the W., and make it the M. of the new peal; and, working backwards, you will have the bob leads at the distances reversed, thus:—2, 7, 1, 2, 7, 1, 2, 1, 6, 2, 1, which gives the following peal D, which may be varied by commencing at the different courses to form the peals E and F, as annexed:

D. 2 3 4 5 6	M.	W.	H.
3 6 4 5 2	1		2
6 2 4 5 3	1		2
3 6 5 2 4	2	1	2

E. 2 3 4 5 6	M.	W.	H.
3 6 4 5 2	1		2
2 3 5 6 4	2	1	2
3 4 5 6 2	1		2

F. 2 3 4 5 6	M.	W.	H.
6 2 5 3 4	2	1	2
2 4 5 3 6	1		2
4 6 5 3 2	1		2

With very ordinary peals, such as the foregoing, it is so easy to see the great similarity between the original and its counterpart, that an example in which there is more apparent difference may be interesting. The first of the two following peals of 8,448 was composed by J. Reeves, and rung in 1787, and until 1869 was the greatest length composed with the tenors together. In 1848 the second of these two was rung in London as an original composition; it is however, only Reeves's peal reversed, as can easily be proved by writing out the number of leads that the calls are apart and then reversing them. From each of these peals, by commencing at the different course-ends, nine can be produced, thus making a total of twenty, including the original peal, which can be produced from one original ten-course peal. With a very little practice any one can soon learn to run off the calls in a peal backwards, and prick them down, ready for applying the table of course-ends and producing those in the new peal.

REEVES'S PEAL. 2 3 4 5 6	M.	W.	H.	A VARIATION. 2 3 4 5 6	M.	H.	W.
·3 5 2 6 4				·3 5 2 6 4			
·3 5 6 4 2			1	·5 6 3 4 2			
·5 3 2 4 6		1	2	·6 5 2 4 3		1	2
·5 3 4 6 2			1	·5 3 2 4 6	2	1	2
·2 6 4 3 5	2	2	1	·5 3 4 6 2			1
·3 2 6 5 4			2	·2 6 4 3 5	2	2	1
·3 6 5 2 4	1	2	2	·3 2 6 5 4			2
·6 2 5 3 4	1			·6 2 5 3 4	1		1
·2 3 6 4 5				·2 3 6 4 5			
·3 4 2 5 6				·3 4 2 5 6			

A more suitable part-end can sometimes be produced by commencing a peal at a different course-end; for instance, in this manner, 5 6 can generally be brought home in a three-part peal. By reversing a peal, the sixth can be transposed from the position of home to wrong in the new peal, provided there is one course-end with the sixth wrong in the original peal. Thus, with a peal that has the sixth, say ten course-ends home and one W., there will be a course-end from which it can be reversed, so that the sixth appears the ten W. and one H. A peal with the fifth and sixth the extent cannot, of course, be commenced at *any* course-end and these properties retained: you can, however, begin after the course-end which has 6 5 in 5 6; it can also be reversed and these properties retained. A little experience will, however, soon show a composer how to arrange any original composition in the most advantageous manner.

In order to show the application of these different variations to other methods besides Treble Bob, I annex the three following examples, when it will be seen that although the second of each of these peals has been brought out and rung as an original composition, they, unfortunately, only present instances of similarity of composition when compared according to the foregoing principles.

CAMBRIDGE SURPRISE.

5,600.

23456	M.	W.	H.	23456	M.	W.	H.
42356			–	42356			–
32654	–			34256			–
56423	–	–		24653	–		
42563		–	–	56342	–	–	
54263			–	34562		–	–

Four times repeated.

C. Middleton.

SUPERLATIVE SURPRISE.

6,048.

23456	M.	W.	H.	23456	M.	W.	H.
65432	–	–	–	65432	–	–	–
46532			–	46532			–
54632			–	54632			–
26435	–		–	63542		–	–
42635			–	56342			–
64235			–	35642			–
52436	–		–	64352		–	–
45236			–	36452			–
24536			–	43652			–

Twice repeated.

J. Cox.

LONDON SURPRISE.

6,048.

23456	M.	W.	23456	M.	W.
54632	–	–	54632	–	–
35642		–	36245	–	–
46253	–	–	42563	–	–
54263		–	52364	–	
62345	–	–	63425	–	–
46325		–	24536	–	–
23564	–	–	35642	–	–
65432	–	–	65243	–	
34256	–	–	42356	–	–

Twice repeated.

W. Harrison.

In the Cambridge Surprise peals, the second will be found to be an example of the first peal commenced at a different course-end. The first peal, by C. Middleton, of Norwich, was published in the first edition of *Hubbard's Art of Ringing*, in 1845; the second peal was rung at Benington, in 1873, as the original composition of J. Miller, of London. The two peals of Superlative Surprise make an example of the reversing of peals. The former of these peals was composed by J. Cox, of London, and published in the 1854 edition of Hubbard's work; the second of them, by J. Miller, was rung at Benington, in 1855. Of the London Surprise peals, the first was composed by William Harrison, of Mottram, and published in Sottanstall's work in 1868. The second, by J. Miller, which was rung at Benington in December, 1870, is a reversed example of the original peal with the addition of a bob at the W. (in the sixth course), by which the changes in the second part of the original peal, when reversed, are merely taken up at this point, while the working ot the fifth and sixth is not affected. Of course, as I do not know when the second of each of these peals was composed, I do not wish to make any remarks upon them, further than to observe that when they were rung, they were all, as is apparent to any one, practical examples of the different modes of variation upon peals already previously published.

When my attention was first drawn to the variation of peals, especially by reversing, I saw at once, from peals already published, that it was a matter that had escaped the notice of many composers, and thinking every one should be in the possession of such information I placed the matter before the Exercise in a letter to *Church Bells*, on February 5th, 1876. I found that my surmise was correct, when I next met Mr. J. Lockwood he informed me that on looking over some of his compositions he found that an 8,554 which he had contributed to the lately-published edition of Hubbard's work, was only the reverse of one composed a few years before by Mr. J. Thorp. Mr. Lockwood, however, managed to give a most practical turn to the principle of reversing when applied to the improvement of a peal. In the edition alluded to, of Hubbard's work, a 9,120 of Treble Bob of Mr. Lockwood's appeared; this peal had a "double" at the first lead-end, after which it ran 9,088 changes by ordinary bob calling, without parting the tenors. Mr. Lockwood reversed this peal, when the result was so extraordinarily successful that it ran 9,119 changes without any departure from ordinary bob calling, and as the change then brought up was 1 2 3 4 5 7 6 8, a single brought the bells round at the 9,120th change.

Although the foregoing is an instance of the practical appreciation of such information, I find that it is not every one who either wishes or will take the trouble to understand anything new that is brought forward. A short time after the appearance of the letter just mentioned, and to which I may say my name was not attached, I happened to be in London at a meeting of the College Youths, when one of my fellow members, in a general discussion on ringing matters, commenced very soundly to rate the writer of the letter in *Church Bells*, wherein the peals of 8,448, previously given, had been compared and said to be similar: in fact so very severely were the assertions of the writer criticised that, to the amusement of every one, I felt bound to avow the authorship. I endeavoured to explain my views, but in the absence of the pricking of the peal, I found that it was not possible to show my criticiser that my views were correct, as his mind was evidently very strongly made up on the subject. I, however, considered the matter so apparent, that I thought it was very probable my friend had not paid much attention to the subject, and really spoke so strongly, to vindicate his feelings with regard to the legitimate manner in which the composition of the reversed peal had been brought about. The question, however, as to whether every peal can or cannot be reversed, has, since this incident, been brought more prominently before the public, and as my endeavour in writing these pages is to place all those who wish to judge for themselves, in such matters, in a position to do so, I think the example I now refer to may be of interest to my readers, and show the necessity for such lengthy explanations as I have given in some of these different, though apparently simple, matters.

On June 23rd, 1877, the calling of a peal of 5,200 of Treble Bob Royal, which had lately been rung by the College Youths, at Fulham, was published in *Church Bells*, and as a very indefinite and wordy warfare was then being waged in that paper between two anonymous writers, who, I suppose, belonged to different sections of the London Exercise, and were busily engaged in throwing epistolary mud and stones at one another, the fact that this peal was only the reverse of one composed by J. Reeves, and rung in 1802, was soon mentioned. The author of the composition must, I suppose, have contended that the peal *was not* Reeves's reversed, and as the other ringers do not seem to have been able to settle the question, one of them wrote to *Church Bells* and published the peals side by side, requesting the criticisms of the public, saying—"I contend that the peals are not like each other," and asking anyone who considered they were alike to say so. The peals are annexed, and I will, therefore, leave my readers to form their own conclusions.

5,200 TREBLE BOB ROYAL.

Reeves's Peal.				Peal rung at Fulham.			
2 3 4 5 6	M.	W.	H.	2 3 4 5 6	M.	W.	H.
5 6 3 4 2	1	2	2	2 5 6 3 4	2	1	1
6 4 5 2 3	2	2		3 2 5 4 6	2	2	2
2 6 4 3 5	2	2	2	4 3 2 6 5	2	2	2
3 2 6 5 4	2	2	2	6 4 3 5 2	2	2	2
5 4 2 6 3	1	2	2	5 6 4 2 3	2	2	2
6 5 4 3 2	2	2	2	3 5 2 6 4	2	1	2
3 6 5 2 4	2	2	2	6 3 5 4 2	2	2	2
2 3 6 4 5	2	2	2	3 4 6 2 5	2	2	
2 3 4 5 6	2	2	1	2 3 4 5 6	2	2	2

The Exercise generally has, in my opinion, a great deal yet to learn, if it takes any effort to understand that, so long as every peal can be easily reversed and will then be as true as the original peal, that a peal cannot be considered an original one if it turns out to be merely the reverse of one long since composed and published. I find that a favourite answer to this is, that there will then be very few original compositions, as every peal will be a variation of some old one. If this were true, I cannot see that because old peals were being continually reproduced, we should shut our eyes to the fact that they were not new ones, and that people should waste their time in composing peals they might get much more easily by simply reversing the old ones. The real fact, however, is that although there are several peals to be found in published works which are the reverse of older ones, such peals are extremely rare, and these instances would soon cease altogether, if composers would only take the precaution to compare their peals before they are sent forth, a negligence for which there is now no excuse, since the attention of the Exercise has been drawn to these different modes of variation.

CHAP. VI.—THE PROOF OF TREBLE BOB.

ON account of the extensive practice that Treble Bob Major receives, a great deal of interest must necessarily be attached to the means whereby its truth may be proved. Especially will this be the case if the conductor of each company should endeavour to prove the peals he may have an opportunity of calling. I propose, therefore, to investigate the principles on which Treble Bob Major is proved, and since the treble lead-ends, bob-changes, course-ends, and also the proof, in the two variations mostly practised, viz., Oxford and Kent, are alike, I propose using the latter variation for any direct application I may give of the principles of this proof. I shall also show how, in this variation, the proof can be greatly simplified when the tenors are kept together.

With any variation, it is necessary, in the first place, to form an acquaintance with the *course* of the different rows in a treble lead, when in Treble Bob Major it will be seen, that the hand-stroke of the treble's full lead is invariably an *out*, whilst the back-stroke lead, whether at a plain or a bob lead, is always an *in*-course row. A treble lead-end cannot, therefore, ever repeat at the hand-stroke, because an *in*-course row can never occur in this place. You have, therefore, only to compare the treble lead-ends from, or at which, bobs are called, to make sure that all the lead-ends are true.

In many variations, and in all when the tenors are parted, it is necessary in the proof to use every lead-end, and in such cases it is the simplest plan to write all down, when proving the lead-ends, so that they can then be used for any further proof which is required.

Having pricked the lead-ends, keeping all those with the tenor in the same place in respective columns, the easiest way to compare them is, to observe the four last bells at the first lead-end; then look down the column and see if the same bells are again behind in a similar order: if so, the three bells in front must be in a different position. I may here remind the reader, that, as all the lead-ends are *in*-course rows, the three bells in front can only be arranged in three different positions with the same four behind. For instance, with 5 6 7 8 behind, 2 3 4 can only also work 3 4 2, and 4 2 3, at the lead-ends, these being the three *in*-course rows of 2 3 4. Therefore, if a double bob is called in any place in Kent, the four bells then behind must never come in the same position again, or a repetition will follow. If one bob is called, it will not be possible to call another bob, when the same bells come behind again, though there is still one lead which can be rung with them in that position.

In proving the lead-ends of Kent with the tenors together, it is only necessary to prick all those from and at which the work is retarded by bobs, these places being when the tenor comes "Middle," "Wrong," and "Home," then to compare them to see there is no repetition. In doing this it is usual to simplify the work by omitting 1, 7, and 8, as their places are constant in each of the respective positions. The lead-ends at M., W., and H. can easily be pricked by using the following table, which is prepared by transposing each subsequent lead from the last one at the previous place. Each of these transpositions is made from the previous lead taken as 2 3 4 5 6.

M.	W.	H.
42635	56324	42536
	-64532	

It is not necessary when bobs "before" are used to prick the lead-ends with the tenors "before," because, if such a bob should cause a repetition, it will continue and be shown at the W. When a bob "before" is called, the second of the rows in the table, under W. must be used for the order in which the figures in the last lead at the M. must be transposed, to give the first lead at the W., when a bob "before" has been called between these two places.

An able prover will seldom trouble to prick the leads, when the tenors are kept together, because their correctness may be ascertained by noticing the positions of the bells at the course-ends, which will, or have, dodged with the tenors in the respective positions of M., W., and H. The bells in third's and fifth's places at a course-end, are those that will fall behind with the tenors at the M. For the W., if two bobs are called at H., the bells in third's and sixth's; if only one bob at H. is called, then those in second's and sixth's; and if a bob is not called at H. then those in fourth's and sixth's at the course end, are those that have dodged behind with the tenors at the W. Now, as previously explained, if a double bob is called at any of these places the same bells must not fall behind again in the same position; if one bob, they can only present themselves again when there is an omit (no bob), or should the omit have been made the first time they came behind, they can only be present again when there is one bob called. In these latter cases, however, an examination is necessary, as in this way they can come up false, although not more than the allowable number of times behind.

The course-ends of a peal can easily be examined and the H. leads proved true by running over the hindermost bells, and seeing that they do not come up false. If three leads showing two bobs at the M. be pricked, it will be seen that the bells behind at the M. are those in third's and fifth's places at the course-end. The bells in third's place at the three M. leads here given will be seen to be the bells in second's, fourth's, and sixth's places respectively at the course end. If a bob is called at the M., the next time the same bells in third's and fifth's at the previous course-end come up again in that position, the bell in sixth's at the first course-end will have then to be in second's place at the course-end. This is easy to remember, and thus, or by similar rules, my readers can learn to examine the truth of the leads at the M. from the course-ends without pricking any of them down.

2345678
4263857
-6423857
-2643857

To prove a peal I generally proceed thus: I first run over the course-ends and see that the M.'s and H.'s are true, I then write out the calling of the courses in reversed order, and fill them in from a table of course-ends; by this means I make sure that the calling of the peal (if it has been sent to me) is correctly written out, and that my own course-ends are correct and may be used for proving from. Besides this, if the original peal should be false at the W. leads, when transposed it will show false at the M. leads: I therefore run over the M.'s in the transposed peal to see if they are true. This obviates the trouble of pricking out the lead-ends at the W., or seeing whether they are true from the course-ends, which, when there are double and single bobs and omits at the course-end, is not done so very easily, without liability to error, if they are not pricked out, though in peals where there is generally a double bob at H. at each course-end it is not difficult, especially as, where two H.'s are not called at the course-end, you can mentally make the bobs required, and then the bells in third's and sixth's place in this imaginary course-end will be the bells that were behind at the W. If the annexed six leads be examined it will be seen that, if a W. is not called, the bell in fifth's place at the 2 H. course-end will be the one in third's at the last W. lead. If one W. is called, the bells in fifth's and fourth's have been in third's at the two W. leads: therefore, if the same bells again turn up in third's and sixth's places at the course-ends, the bell which was in second's place at the course-end when the one W. was called must then be in fifth's place at this course-end, or one of the other bells will again have been in third's place at the W. lead, when the W. leads would necessarily be false. If you, however, wish to have the W. leads written out, you can prepare a scale for pricking them backwards from the course-end. In fact there are various ways which will probably suggest themselves to my readers for ascertaining the truth of the M., W., and H. leads, without the trouble of pricking each one out.

4 2 5 7 3 8 6
- 5 4 2 7 3 8 6
- 2 5 4 7 3 8 6
4 2 3 5 6 7 8
- 3 4 2 5 6 7 8
- 2 3 4 5 6 7 8

Having arrived at the conclusion that all the lead-ends are true, the next thing requiring demonstration is, whether false rows can occur *inside* the lead without being shown at the lead-end? In all systems, whether this is so, and if so, to what extent, depends on the order in which the *courses* of the rows fall. Thus, in Plain Bob Major it is quite impossible that it can be so, because all the rows with the treble in any one place going up, are of the opposite *course* to the rows when the treble is in the same place coming down, as is evident from the annexed example, in which the latter half of the lead is pricked upwards :—

	Treble going up.	Treble coming down.
1 place	1 2 3 4 5 6 7 8 in.	1 3 2 5 4 7 6 8 out.
2 „	2 1 4 3 6 5 8 7 in.	3 1 5 2 7 4 8 6 out.
3 „	2 4 1 6 3 8 5 7 out.	3 5 1 7 2 8 4 6 in.
4 „	4 2 6 1 8 3 7 5 out.	5 3 7 1 8 2 6 4 in.
5 „	4 6 2 8 1 7 3 5 in.	5 7 3 8 1 6 2 4 out.
6 „	6 4 8 2 7 1 5 3 in.	7 5 8 3 6 1 4 2 out.
7 „	6 8 4 7 2 5 1 3 out.	7 8 5 6 3 4 1 2 in.
8 „	8 6 7 4 5 2 3 1 out.	8 7 6 5 4 3 2 1 in.

From this it can be seen that, in Bob Major, one of the rows with the treble in any one place cannot occur when the treble is in the same place, but working in the contrary direction, from some different lead-end, without a derangement of the order of the courses; which cannot possibly happen unless a single, or some other means, is used to produce this effect.

It has now to be ascertained whether, in Treble Bob Major, it is possible for a certain row, which comes from a certain lead-end, to be reproduced from a totally different lead-end, when the treble is in a similar place and working in the same, or the contrary direction.

A treble lead must therefore be pricked, and the *course* of each row marked, as is done in the annexed example of Kent:—

	1 2 3 4 5 6 7 8 in.
Treble in 1-2 up.	2 1 3 4 6 5 8 7 out.
	1 2 4 3 5 6 7 8 out.
	2 1 4 3 6 5 8 7 in.
3-4 up.	2 4 1 6 3 8 5 7 out.
	4 2 6 1 8 3 7 5 out.
	4 2 1 6 3 8 5 7 in.
	2 4 6 1 8 3 7 5 in.
5-6 up.	2 6 4 8 1 7 3 5 out.
	6 2 8 4 7 1 5 3 out.
	6 2 4 8 1 7 3 5 in.
	2 6 8 4 7 1 5 3 in.
7-8 up.	2 8 6 7 4 5 1 3 out.
	8 2 7 6 5 4 3 1 out.
	8 2 6 7 4 5 1 3 in.
	2 8 7 6 5 4 3 1 in.
7-8 down.	2 7 8 5 6 3 4 1 out.
	7 2 5 8 3 6 1 4 out.
	7 2 8 5 6 3 4 1 in.
	2 7 5 8 3 6 1 4 in.
5-6 down.	2 5 7 3 8 1 6 4 out.
	5 2 3 7 1 8 4 6 out.
	5 2 7 3 8 1 6 4 in.
	2 5 3 7 1 8 4 6 in.
3-4 down.	2 3 5 1 7 4 8 6 out.
	3 2 1 5 4 7 6 8 out.
	3 2 5 1 7 4 8 6 in.
	2 3 1 5 4 7 6 8 in.
1-2 down.	2 1 3 4 5 6 7 8 out.
	1 2 3 4 6 5 8 7 in.
	2 1 4 3 5 6 7 8 in.
	1 2 4 3 6 5 8 7 out.
	1 4 2 6 3 8 5 7 in.

Take the treble in any position, for instance in thirds, going up and down, and compare the rows:—

	Treble going up.	Treble coming down.
A	2 4 1 6 3 8 5 7 out.	C 3 2 1 5 4 7 6 8 out.
B	4 2 1 6 3 8 5 7 in.	D 2 3 1 5 4 7 6 8 in.

Now, as the rows A and C, in the former of which the treble is going out and in the latter is coming in, are both of the same *course*, it is evident these rows may occur in the contrary places; that is, the row C may occur at A, or *vice versâ*. Suppose the row C to occur at A, if you prick backwards you will obtain the lead-end which gives C at A: therefore, if this lead-end occurs in a peal you will have the same row (3 2 1 5 4 7 6 8) produced, when the treble is going up from this lead, as you have when it is coming down from 1 2 3 4 5 6 7 8.

It is not necessary, absolutely to prick the rows backwards to find out these lead-ends, because they can be obtained by transposition, thus:—If 2 4 1 6 3 8 5 7 comes from 1 2 3 4 5 6 7 8, then 3 2 1 5 4 7 6 8 will come from the lead-end 1 3 4 2 6 5 8 7. This lead-end, therefore, if ever admitted as a lead-end in a peal, will bring a similar row inside the lead as occurs from 1 2 3 4 5 6 7 8, although the lead-ends are totally different.

In the same way the rows B and D, and, in fact, all the similar positions of the treble in the lead, should be considered, and tabulated as I will show. Before proceeding to this, however, I may remark that in Treble Bob it will be found that two of each of the rows with the treble in one place (there are four rows altogether for each place) are of one course, whilst the other two rows will be of the opposite course, and in Kent the rows in 1-2, 3-4, 5-6, and 7-8, repeat in sets of four.

The reason of this is, the rows with treble in, say fourth's place, being produced from those with treble in third's, as the rows with treble in third's follow each other—that is, if one is reproduced in the contrary place the other will also be reproduced there—the rows with treble in fourth's will likewise be reproduced at the same time. On account of this, it is only necessary to find out what lead-ends will reproduce the same rows, in the contrary places, with the treble in first's, third's, fifth's, and seventh's places; these will be the lead-ends, which will also produce similar results in second's, fourth's, sixth's, and eighth's places.

As an example of this, observe the rows with treble in 3-4 going up, and you will see, as stated above, that A may come at C, and B at D: prick A at C as it would come from the lead-end 1 4 2 3 6 5 8 7, you will then have the rows when the treble is in 3-4 coming down in this lead, thus :—

4 2 6 1 8 3 7 5
2 4 1 6 3 8 5 7=A at C
2 4 6 1 8 3 7 5
4 2 1 6 3 8 5 7=B at D

You can now see, that when A comes at C, B also comes at D, and that both these rows are attended by the rows in fourth's place, from 1 2 3 4 5 6 7 8 when the treble is going up, which I have stated are dependent on those in third's place, and thus the whole of the four rows, with treble in 3-4 going up from 1 2 3 4 5 6 7 8, are reproduced from this lead-end (1 4 2 3 6 5 8 7), when the treble is coming down.

Although this explanation may not be very easy to follow, yet the only result, if the whole of the places were investigated, would be, that it would be found the lead-ends which would reproduce the rows in, say fourth's place, would be the same as those that reproduce them in third's place.

The following is a table showing the positions of the treble, and how what is called the "General Proof Scale" for the lead, 1 2 3 4 5 6 7 8, is arrived at :—

Rows taken from first lead.	Course.	Working of Treble.	Possible Reproductions.	Proof Scale.	False with Treble in.
A 1 2 3 4 5 6 7 8	in	at lead	A comes at C, followed by B at D from	1 2 3 4 6 5 8 7	1-2 up and down
B 1 2 4 3 5 6 7 8	out	up			
C 1 2 3 4 6 5 8 7	in	down	D comes at B from	”	
D 1 2 4 3 6 5 8 7	out				
A 2 4 1 6 3 8 5 7	out	up	A comes at C, followed by B at D from	1 4 2 3 6 5 8 7	down 3-4 up
B 4 2 1 6 3 8 5 7	in				
C 3 2 1 5 4 7 6 8	out	down	C comes at A, followed by D at B from	1 3 4 2 6 5 8 7	
D 2 3 1 5 4 7 6 8	in				
A 2 6 4 8 1 7 3 5	out	up	A comes at C, followed by B at D from	1 6 4 3 2 5 8 7	down 5-6 up
B 6 2 4 8 1 7 3 5	in				
C 5 2 3 7 1 8 4 6	out	down	C comes from A, followed by D at B from	1 5 4 3 6 2 8 7	
D 2 5 3 7 1 8 4 6	in				
A 2 8 6 7 4 5 1 3	out	up	A comes at C, followed by B at D from	1 8 4 3 6 5 2 7	down 7-8 up
B 8 2 6 7 4 5 1 3	in				
C 7 2 5 8 3 6 1 4	out	down	C comes at A, followed by D at B from	1 7 4 3 6 5 8 2	
D 2 7 5 8 3 6 1 4	in				

In this table, under the column headed, "Rows taken from first lead," are the rows with the treble in first's, third's, fifth's, and seventh's places, whose reproduction, as explained, will also bring the rows in second's, fourth's, sixth's, and eighth's places; each row is distinguished by a letter prefixed. Under the heading "Course," the *course* of each row is marked; and in the next column the working of the treble, whether going up or down, is specified. After this all the possible reproductions are named, followed by the proof-scale rows, which are the lead-ends, found, as explained, by transposition, which will reproduce these rows: the position in which this lead would reproduce them is also notified in the remainder of the column.

By this means all the rows are obtained, which it is evident, if ever used as lead-ends, will bring some of the same rows in the subsequent leads as are in the lead from 1 2 3 4 5 6 7 8. These are the rows which act against the lead-end 1 2 3 4 5 6 7 8, and of course there are other rows, which are to any given lead-end, as these are to 1 2 3 4 5 6 7 8. Mr. James Lockwood pointed out to me a remarkably easy way in which all the proof-scale rows may be remembered. The hand-stroke row of the treble's full lead is 2 4 3 6 5 8 7, and to obtain all the proof-scale rows, the second has merely to be transposed with each of the bells in this row; it also appears that when the second is transposed with the bells in third's and fourth's places, the rows are produced for the proof in 3-4, and in like manner for the other places. One row is only necessary for the proof in 1-2, and the second being in its own place, the bells in 3-4 at the hand-stroke have to be transposed, which gives 2 3 4 6 5 8 7.

To prove a peal with the tenors parted, it is first necessary to prick out all the lead-ends, having proved that they are true by comparing them, then to go through them, transposing each lead for its false rows in the same manner that the above proof scale is transposed from rounds, and by comparing the false rows with the lead-ends, to see that no false row is used as a lead-end in the peal.

This is most readily done by knowing how the general proof-scale rows are reversed from rounds; for instance, in 1-2 and 3-4, the four hindmost bells, amongst others, are reversed. Now, none of the transposed rows need be written down, but having reversed some of the consecutive bells, look down the columns to see if these bells can be found in a corresponding position. Suppose you take the first lead-end in a plain course from rounds 4 2 6 3 8 5 7, now reverse the four hindmost bells, as 6 5 8 7 is from 5 6 7 8, which gives 8 3 7 5; look down the column of lead-ends, in which 8 is in fifth's place, and if you find 8 3 7 5 behind, and the other bells come 4 2 6, it will be false with the treble in 1-2, but if they come 6 4 2 or 2 6 4 it will be false in 3-4. You can look the columns over for 1-2 and 3-4 at the same time, because if ever 8 3 7 5 come behind, you will have a treble lead false with this one, in 1-2 or 3-4, because the three *in*-course rows, with 8 3 7 5 behind, are all rows which will produce false ones against this lead; and the *out*-of-course rows can never come up, because all the lead-ends and all the proof-scale rows are *in*-course rows.

The foregoing is the principle and system by which the proof scale in any variation of Treble Bob Major may be obtained and applied, and if proved in this manner, and found correct, the peal will undoubtedly be true.

In several of the variations of Treble Bob Major, the number of rows in the proof scale for the treble in the different positions will be found to be more numerous than in Kent: for instance, in Cambridge Surprise there are four rows, which act against each of the positions in 1-2, 3-4, and 5-6; this is because the place-making, &c., disturbs the bells more, and renders the working of the *courses* of the rows less even. In this last-mentioned variation the repetitions in the places named only occur in pairs, and in 3-4 a very curious circumstance may be noticed; the rows with treble in 3-4 going up are all *in*, whilst those when the treble is in 3-4 coming down are all *out*-of-course, therefore the rows with the treble in this place up and down will not repeat with one another, but the row with treble in third's *going up*, *before* the dodge, will repeat with the row with treble in the same place *going up*, *after* the dodge.

A thorough insight into all this can, however, be best obtained by the reader selecting some other Treble Bob variation, marking the working of the *courses* in a treble lead, observing in what places the rows can repeat, and then, according to the previous explanation, constructing the general proof scale for the variation selected.

As previously stated, when the tenors are kept together, there are several ways in Kent by which the proof can be simplified: the most simple of these, and, in fact, that from which several others are deduced, is the "proof by course-ends," which, most probably, has been arrived at in the following manner.

When the general proof scale was used for peals with the tenors together, those who used it must at once have noticed that it would be useless to transpose the lead-ends with 7-8 at home (generally called the "course-ends") for false rows, because there never could be a lead-end, in such a peal, with the hindmost bells 8-7, into which position the tenors are transposed all through the proof scale, except for the proof in 7-8, when they are transposed to the opposite extremities of the rows, in which position it would also be impossible to find the tenors, in a peal when they are not parted.

Having noticed this fact at the lead-ends with 7-8 at home, it would not be very unlikely that some one would think there might be other leads which, for similar reasons, it would be unnecessary to prove in such peals.

The way to ascertain this would be, to prick the lead-ends of a plain course, to transpose each by the general proof scale for its false rows, then to look through the rows so obtained and notice where any rows occur, when the tenors are in such places as they can fall into, at a lead-end, when kept together. This is done below :—

False in		First lead.	Second.	Third.	Fourth.	Fifth.	Sixth.	Seventh.
		2345678	4263857	6482735	8674523	7856342	5738264	3527486
1-2	up and down	2346587	4268375	6487253	8675432	7853624	5732846	3524768
3-4	down	4236587	6428375	8647253	7865432	5783624	3572846	2354768
	up	3426587	2648375	4867253	6785432	8573624	7352846	5234768
5-6	down	5436287	3628475	2847653	4765832	6583724	8372546	7254368
	up	6432587	8624375	7846253	5768432	3587624	2375846	4253768
7-8	down	7436582	5628374	3847256	2765438	4583627	6372845	8254763
	up	8436527	7628345	5847263	3765482	2583674	4372856	6254738

It will now be seen that it is only in the third, fourth, fifth, and sixth leads, that any of the transposed rows have the tenors in a position similar to any of the lead-ends of a plain course, which plain course gives all the positions the tenors can fall into when kept together. These rows are distinguished by a line drawn under them. If the rows in the plain course corresponding to the positions of these underlined rows be examined, 1, 7, and 8 will be found to be in the same positions at the different dodging places, and the rows will be found to be of the same *course*. By comparing, therefore, the rows in a plain course of any Treble Bob method, and observing when 1, 7, and 8 are in the same position and the row is of the same *course*, all the rows will be found at which false changes can occur, inside the leads, when the tenors are kept together. I should advise my readers to prick out a plain course of Kent, and examine it in the dodging places corresponding to the different underlined rows, as it will also enable them to understand a method of proof which consists in pricking from the lead or course-ends these corresponding rows, and comparing them one with another. In certain methods this is much the easiest way of proving a peal, but as it is neither the simplest nor shortest that can be applied to Kent, I do not propose to investigate it any further.

From the foregoing table of transpositions of the plain course lead-ends, it will be seen that when the tenors are kept together, it will only be necessary to transpose those leads, by the general proof scale, in which the underlined rows turn up, and that, unless the tenors are separated, no transposition is necessary for the proof of the first, second, or seventh leads, nor can any such peal be false in 7-8.

When this discovery was made, the proof by course-ends would naturally follow: because it would be seen that as only a few lead-ends give false rows from a plain course, if the course-ends which give these false rows against 2 3 4 5 6 7 8 were pricked, then, if all the course-ends of a peal were transposed in a similar manner, unless some of them when transposed fell into a similar position as one of the course-ends of the peal, the whole must be true. It is necessary, therefore, to arrive at the course-ends from which these underlined rows will come, which may be found by pricking the lead-ends backwards, or forwards, to their course-ends, when the results given in this table will be obtained:—

False lead-ends against plain course lead-ends.		False course-ends.		Position of rows in plain course.
7 8 4 6 2 5 3	the 5th lead from	3 2 5 4 6	Brings rows similar to those to be found in plain course at	5-6 up in 3rd lead.
8 6 7 5 4 3 2	„ 4th „	3 2 5 4 6		1-2 up and down in 4th lead.
7 8 6 5 4 3 2	„ 5th „	2 4 3 6 5		3-4 down in 4th lead.
5 7 6 8 4 3 2	„ 6th „	4 6 2 5 3		5-6 up „
7 8 5 3 6 2 4	„ 5th „	4 6 2 5 3		1-2 up and down in 5th lead.
8 5 7 3 6 2 4	„ 4th „	2 4 3 6 5		3-4 up in 5th lead.
6 5 8 3 7 2 4	„ 3rd „	3 2 5 4 6		5-6 down in 5th lead.
8 3 7 2 5 4 6	„ 4th „	4 6 2 5 3		5-6 down in 6th lead.

As previously shown, the reproduction of the rows in Kent takes place in the opposite position of the treble when passing up and down; the places, therefore, in which these reproductions will occur, from the false course-ends, may easily be recognised from this table. For instance, 7 8 4 6 2 5 3 is the fifth lead-end from the course-end 3 2 5 4 6; this lead will reproduce rows similar to those to be found at 5-6 up, in the third lead of the plain course: these rows, therefore, will be found at 5-6 down in the fifth lead from 3 2 5 4 6.

On account of the regularity of the working of Treble Bob Major, if the fifth lead of one course reproduces rows from the third of another, the fifth of the latter will also reproduce others in the third of the former.

From the foregoing table it will be seen that several of these false lead-ends are from the same false course-ends, and that the three following course-ends represent those that give all the false lead-ends in the table. To these course-ends are appended the lead and places in which the false rows come, both from the false course-end and in the plain course.

32546 false in	5-6 down in 5th lead, with 5-6 up in 3rd;	1-2 up and down in 4th leads; and 5-6 up in 3rd lead, with 5-6 down in 5th.
24365 „	3-4 up in 5th lead, with 3-4 down in 4th;	and 3-4 down in 4th, with 3-4 up in 5th.
46253 „	5-6 down in 6th lead, with 5-6 up in 4th;	1-2 up and down in 5th leads; and 5-6 up in 4th lead, with 5-6 down in 6th.

These are the "false course-ends" obtained from the proof-scale rows, and are false against a plain course, that is, from the course-end 2 3 4 5 6; and if, in your peal, you used the third, fourth, fifth, and sixth leads of the plain course, if one of these course-ends were also admitted in the peal, similar rows would be found in the leads and places against which the false course-end admitted would act. As these course-ends are to 2 3 4 5 6, so certain other course-ends will be to any other given course-end, as may be found by transposition.

The foregoing, therefore, are all the course-ends necessary to prove a peal of Kent, in which bobs are only called at the M., W., and H.; but supposing a bob or two bobs to be called at the M., different leads from those which would occur without a bob would be produced from the same course-end.

Now, since the leads when the tenor is at the M. will not produce false rows, if you can find the course-end which will produce the same lead-end, by a plain-lead, as the last bob at M., you will have what is called the "natural" course-end from which the leads you require to prove will come. The following rows show this:—

1 2 3 4 5 6 7 8	1 4 3 6 5 2 7 8	1 2 3 4 5 6 7 8	1 6 3 2 5 4 7 8
1 4 2 6 3 8 5 7	1 6 4 2 3 8 5 7	1 4 2 6 3 8 5 7	1 2 6 4 3 8 5 7
B 1 6 4 2 3 8 5 7		B 1 6 4 2 3 8 5 7	
		B 1 2 6 4 3 8 5 7	

The first column shows the lead-end one bob at the M. brings from rounds; the second column shows how the same row comes by a plain lead from the course-end 4 3 6 5 2; whilst the third and fourth columns illustrate the same effect when two bobs at the M. are called. The course-ends 4 3 6 5 2 and 6 3 2 5 4 respectively are the natural course-ends from 2 3 4 5 6 when one and two bobs at the M. are called; that is, these course-ends each, by a plain lead, will produce the same lead-end at the M. and following leads, as come from 2 3 4 5 6 when one or two bobs, in this place, are called. Therefore it is necessary to transpose all the course-ends which are followed by bobs at the M., viz. those followed by one, and those by two, in the same way that 4 3 6 5 2 and 6 3 2 5 4, respectively, are from 2 3 4 5 6.

As with the tenors together no peal in Kent can be false, inside any of the leads, when the tenors are M., W., and H., if the course-ends are transposed to counteract bobs at the M., calls can be made at the W. and H. to any extent that does not produce false lead-ends, without affecting this mode of proof.

Were M., W., and H. the only places at which bobs can be called when the tenors are together, it would only be necessary to transpose the natural course-ends when found, in the same way as those which have been proved to act against the plain course are to 2 3 4 5 6, and unless some of the natural course-ends appeared amongst the transposed ones, the peal would be true.

There is, however, another place at which a call can be made without parting the tenors, viz., "before:" the effect, therefore, of such a bob has to be considered. A bob B. will produce different leads in the places of two of those in the course which have to be proved, viz., the fifth and sixth; you must, therefore, prick these leads with their general proof-scale rows as they come in a course with a bob B. from 2 3 4 5 6, thus:—

False in	Fifth lead.	Sixth.
1-2	7 8 6 4 5 2 3	6 7 5 8 3 4 2
	7 8 6 5 4 3 2	6 7 5 3 8 2 4
3-4	6 7 8 5 4 3 2	5 6 7 3 8 2 4
	8 6 7 5 4 3 2	7 5 6 3 8 2 4
5-6	4 6 8 5 7 3 2	8 5 7 3 6 2 4
	5 6 8 7 4 3 2	3 5 7 6 8 2 4
7-8	2 6 8 5 4 3 7	4 5 7 3 8 2 6
	3 6 8 5 4 7 2	2 5 7 3 8 6 4

The rows underlined are those into which places the tenors, when kept together, can, as previously explained, be transposed, and, therefore, show the only places that need be proved. The course-ends from which these rows proceed are:—

False lead-ends from 5th and 6th leads in a course with a bob "before."		False course-ends.		Position of rows in a course with a bob "before" from 2 3 4 5 6.
7 8 6 5 4 3 2	the 5th lead from	2 4 3 6 5	Brings rows similar to those to be found in a course with a bob "before" at	1-2 up and down in 5th lead.
8 6 7 5 4 3 2	„ 4th „	3 2 5 4 6		3-4 up in 5th lead.
4 6 8 5 7 3 2	„ 3rd „	5 3 6 2 4		5-6 down in 5th lead.
8 5 7 3 6 2 4	„ 4th „	2 4 3 6 5		5-6 down in 6th lead.

With the exception of 5 3 6 2 4, these course-ends are similar to those which have to be used when bobs "before" are not called. Therefore 5 3 6 2 4 is the only additional course-end which it is necessary to use, and only then, in the courses in which these bobs are called; from this course-end you will have rows in 5-6 up in the 3rd lead, similar to those in 5-6 down in the fifth lead in a course with a bob "before."

Having found that an additional false course-end must be used in the courses in which bobs "before" are called, as different leads are produced at the fifth and sixth of this course, there is a probability that some of the previous false course-ends might be dispensed with.

Now, 3 2 5 4 6 comes false in the leads previous to the tenors coming "before," and, therefore, cannot be dispensed with. Although a bob B. gets rid of the false rows in 3-4 in the fifth lead from 2 4 3 6 5, it produces others in 5-6 in the sixth lead; therefore this course-end, like the preceding one, is brought either with, or without a bob. The remaining course-end, 4 6 2 5 3, does not again appear against the fifth and sixth leads when a bob B. is called, and, therefore, may be dispensed with as far as regards the fifth lead, wherein it was false in 1-2 up and down, from the plain course, when a bob was not called. The other places against which this course-end appears false are the fourth against the sixth lead, and *vice versâ.* Supposing a bob B. to be called in each course, the sixth lead will in these cases be altered, therefore to transpose by 4 6 2 5 3 will be useless, as you will then be transposing for rows in the fourth lead of one course, to be compared with the sixth of the other, and *vice versâ;* but all the sixth leads will be altered. It is, therefore, not necessary to use this false course-end at all in peals wherein a bob B. is called in each course.

For the same reason, 4 6 2 5 3 need not be used in those courses which have bobs B., because the sixth lead of the course being altered, cannot be compared with the fourth of another; and if the sixth lead of any other course, without a bob B., will come false with the fourth of one wherein such a bob is called, the course, without the bob B., being transposed by 4 6 2 5 3, will show it when the two are compared.

From the above remarks I hope it has been shown how, and why, in proving a peal of Kent by the course-ends, you must first transpose all those that are followed by one and two bobs at the M., as 4 3 6 5 2 and 6 3 2 5 4, respectively, are from 2 3 4 5 6, to arrive at the natural course-ends. These natural course-ends must then be transposed, as 2 4 3 6 5, 3 2 5 4 6, and 4 6 2 5 3 are from 2 3 4 5 6, that in courses when bobs "before" are used, another course-end, 5 3 6 2 4, must be used, but 4 6 2 5 3 may be dispensed with.

I will now conclude these remarks with an example of the application of this proof to a peal of Kent, with the tenors together, and choose for this purpose the annexed one-part peal of Mr. H. Hubbard's, as it has single and double bobs, and omits at the M., besides having several bobs B. I suppose the lead-ends at the M., W., and H. to have been compared and found true.

5056

23456	M.	B.	W.	H.
52364		-		2
24365	2	-	1	2
45362	1			2
54263	2			2
65432		-		2
56234	2			2
32654	1	-		
24653	1			2
43652	2	-	1	2
56342	1	-		2
65243		-	1	2
53246	1			2
52436	1	-	2	2
54326	1	-	2	2
23456	1	-		2

In the table of the proof of this peal given below, the course-ends of the peal are first pricked down; in the next columns, under M. and B. respectively, are noted the M. and B. bobs. The marks under the former column show which of the course-ends of the peal have to be transposed, on account of these M. bobs, to obtain the natural course-ends; while the marks under the latter column, B., show the course-ends which have to be transposed by the extra false course-end 5 3 6 2 4.

In the column headed "Natural course-ends," are written down those which are thus transposed for bobs at the M.; those not requiring transposition are also pricked in this column, so that it only need be used for transposing from for the false course-ends.

The following columns are headed by the false course-ends, and in the same way that these are transposed from 2 3 4 5 6, so must the natural course-ends be transposed and pricked in the same horizontal line.

These columns having been filled up in the places required, as previously explained; to prove the peal, observe the first natural course-end, look through the columns under the false course-ends, and if this course-end does not appear in the transposed columns, the course is true. Proceed, in like manner, with the next course-end, and so on, until all have been taken; then, if no one of them appears, the whole peal must be true.

PROOF OF 5,056 KENT TREBLE BOB MAJOR.

Course-ends of Peal.	M.	B.	Natural Course-ends.	False Course-ends.			
23456			23456	24365	32546	46253	53624
52364	2	-	42563	45236	24653	—	62345
24365	1		34562	35426	43652	52364	—
45362	2		25463	24536	52643	43265	—
54263		-	54263	52463	45623	—	64352
65432	2		25634	26543	52364	64235	—
56234	1	-	26435	24653	62345	—	36524
32654	1		62453	64235	26543	43652	—
24653	2	-	34256	32465	43526	—	54632
43652	1	-	63254	62345	36524	—	53462
56342		-	56342	53624	65432	—	46253
65243	1		25346	23564	52436	36245	—
53246	1	-	23645	26354	32465	—	43526
52436	1	-	42635	46253	24365	—	32546
54326	1	-	34625	36452	43265	—	24536
23456			23456	24365	32546	—	55624

I would here again draw attention to the important fact that it is the course-end *before* the calls at the M. that has to be transposed for the natural course-end. In this example of the proof it will be seen that I have placed the calls at the M. and B. directly on a line with the course-end they follow. Should any natural course-end prove similar to one of the false course-ends, it will be in the leads that *follow* the similar course-ends in which the false changes will be found. It is not always necessary to prick down the false course-ends, as the natural ones may be mentally transposed, and the eye run down the column to see if a similar one appears. Experience will, however, soon teach a number of ways in which these processes may be shortened.

It is important that my readers should also be aware that in a three or five-part peal only two, or three parts, respectively, need be proved. This is because any one part bears the same relation to the one preceding it, that the next one does to the following part. Thus, in a three-part peal, if false changes occur in the first and third parts, which are the same as the third and first parts, they will also occur in the first and second parts, and so, in like manner, in the three first parts of a five-part peal will be found all the relationship that any of the five parts can bear to each other. I will now conclude this chapter with an explanation of the proof required for the other numbers of bells.

TREBLE BOB MINOR.—The proof on this number of bells consists in the accuracy of the hand and back strokes of the treble's full lead, as, if these are true, false changes cannot then occur in the interiors of the leads.

TREBLE BOB ROYAL.—On ten bells the changes at the hand and back strokes of the treble's full lead need only be examined, and as, unless the tenors are desperately mixed up, there is no fear of these repeating at the hand strokes, the only proof necessary is that of the lead ends at the M., W., and H., which may be pricked out according to the table given for major. The course-ends need not be tested, as the changes cannot come false inside the leads on ten bells.

TREBLE BOB MAXIMUS.—The general mode of composition on twelve bells is to procure the number on eight that will run to the required number on twelve, as the causes that work to produce false changes on eight are the same against twelve, the treble leads and course-ends requiring to be true, as in major. Any peal of Royal or Maximus can be thrown into the tittums and brought home again: this will merely add three leads to the number of changes but will not affect the truth of the peal.

CHAP. VII.—LOCKWOOD'S SYSTEM OF COMPOSITION.

MANY books have been written giving explanations of different matters connected with change-ringing: but, although these works have generally proceeded from the hands of our most eminent composers, not one of them gives any direct instructions as regards the construction of the peals which appear therein. I mean, whether they are constructed according to recognised rules, or whether a certain number of course-ends—containing, perhaps, the bells in a required position—are blindly thrown together, and then proved, the result being successful or otherwise, as the experience of the composer guides him in the selection of the calls to produce the course-ends. It has also been apparent to me, that reticence in some men, and inability to explain themselves in others, has very much reduced the progress which might have been made in composition, as almost every composer seems to have begun from the very rudiments of this matter, without gaining any real assistance from the past experience of others. I purpose, therefore, in this chapter, to place before my readers a system of composing Treble Bob Peals with the tenors together, which is founded on plain and intelligible principles; and wish to state that for the explanation of this system, I am entirely indebted to Mr. James Lockwood, of Leeds, who originated it, and with an openness which, in the interests of ringing, cannot be too highly commended, not only imparted it to me, but also gave me full liberty to make use of the information in any way in which I desired, and to place it before the Exercise generally.

It has been explained, in a previous chapter, that there are thirty true course-ends; these transposed by any one of the false course-ends will give the thirty false ones. It is therefore apparent that when the proof by course-ends is to be used, it will be as well for any composer to make sure that any course-end he is about to use does not come false with any of those he has previously utilised. If thirty true course-ends are, therefore, pricked, and the course-ends used in composing be only selected from these thirty, it is evident there will then be no necessity for proving anything beyond the lead-ends at the M., W., and H.

There are many peals already composed containing thirty courses, and the natural course-ends of these peals will give thirty true course-ends. Mr. Lockwood, however, prefers to obtain his true course-ends in a different way, that is, to originate them. They may be brought up by experiment in several ways, of which, however, the following will suffice as an example:—Prick the thirty lead-ends of a peal of Treble Bob Minor, in which the tenor is called in and out of the hunt without the fifth. Transpose these by one of the false course-ends—say 3 2 5 4 6—when it will be seen that, with the exception of the second and third leads in each part, the lead-ends will all represent true course-ends. If, however, the second of the leads in each part be altered to 6 4 3 5 2, 6 3 2 5 4, and 6 2 4 5 3 respectively, thirty true course-ends will be obtained as follows:—

42635	34625	23645
64352	63254	62453
26435	46325	36245
42563	34562	23564
54326	53246	52436
35642	25634	45623
63542	62534	64523
56234	56423	56342
25463	45362	35264
42356	34256	23456

The principle of Mr. Lockwood's system is to prepare a table, from these course-ends, embracing all the bob leads that can be had true at the M.'s, W.'s, and H.'s, when, by selecting the different courses, or parts of them, from the table, peals can be composed without any liability to be false, either at the lead-ends or in the interior changes. I will now explain the practical construction of one of these tables, according to Mr. Lockwood's plan, so that my readers may then select their own course-ends, and prick tables different from the ones I shall hereafter give. When a table is constructed from course-ends obtained, as the ones previously given, from the peal of Treble Bob Minor on the three-part plan, they are specially suitable for composing three-part peals, as 5-6 will, of course, be found in similar relation to each other at three of the course-ends.

To construct a Three-part Table.—Rule a sheet into three vertical columns, and divide each column into ten spaces. In each of these spaces write the lead-end at the M. from each of the thirty true course-ends that have been previously selected. Of course, in pricking these tables, it is not necessary to prick 7-8. Directly below each of these M.'s prick the W. lead that would come from these M.'s with a bob B. in each course. Having done this, observe the two bells behind at the M., in the first course of the first column: if these bells do not again come behind at any other of the M. leads, prick two leads backwards, thus making the original M. lead a bob lead, and the course-end it came from the natural course-end for two M. The three leads that can be produced with these two bells behind, will thus be brought into the table If, however, the same bells come behind at another M. lead, one only of these M. leads can be pricked one lead backwards, as if a bob M. had been called to bring up the original M. lead; of course, if the same bells come up behind in two other places, the three lead-ends will already be had, and no extension will be required. Proceed with each M. lead until you have filled in all the bobs that can be had at these places, then take the W. leads, compare them, and *continue* the W. leads with bobs wherever it is possible. There is one thing, however, which needs a special caution. If from rounds 1 M., 1 B., 1 W. is called, rounds will be produced at the course-end. In filling up the W. leads, therefore, if a course is found where the bells behind can be extended by one bob only, it will not do to have it if a single bob has previously been called at the M., since, as a bob B is called in each course, in this course there would be 1 M., 1 B., 1 W., and when the H. lead was pricked it would be the course-end from which the course itself would come.

Having obtained all the W. leads, the plain lead at H. must then be pricked from the last of each of them, and the H.'s can then be extended as far as possible with bobs. To ensure, however, the construction of such tables from this explanation, I will proceed with an example :—

TABLE I.

	I.		II.		III.	
1	645 23 352 46 234 56	234 65	635 42 254 36 423 56	423 65	625 34 453 26 342 56	342 65
2	623 45 362 45 524 63 452 63 245 63 526 43 652 43 265 43	456 32	642 35 264 35 543 62 354 62 435 62 546 32 654 32 465 32	356 24	634 25 463 25 532 64 253 64 325 64 536 24 653 24 365 24	256 43
3	425 63 356 24 632 54 263 54 326 54	632 45	345 62 256 43 624 53 462 53 246 53	624 35	235 64 456 32 643 52 364 52 436 52	643 25
4	354 26 435 26 543 26 632 45 263 45 326 45 634 25 463 25	264 53	253 46 325 46 532 46 624 35 462 35 246 35 623 45 362 45	463 52	452 36 245 36 524 36 643 25 364 25 436 25 642 35 264 35	362 54
5	356 42 264 53 425 63 542 63	425 36	256 34 463 52 345 62 534 62	345 26	456 23 362 54 235 64 523 64	235 46
6	263 54 326 54 632 54 425 36 542 36 253 46 325 46 532 46	543 62	462 53 246 53 624 53 345 26 534 26 452 36 245 36 524 36	532 64	364 52 436 52 643 52 235 46 523 46 354 26 435 26 543 26	524 63
7	562 34 423 65 346 25	346 52	564 23 342 65 236 45	236 54	563 42 234 65 426 35	426 53
8	542 63 254 63 346 52 635 42	635 24	534 62 453 62 236 54 625 34	625 43	523 64 352 64 426 53 645 23	645 32
9	423 56 635 24 562 34 256 34	562 43	342 56 625 43 564 23 456 23	564 32	234 56 645 32 563 42 356 42	563 24
10	346 25 562 43 254 63	254 36	236 45 564 32 453 62	453 26	426 35 563 24 352 64	352 46

Construction of Table No. I.—Suppose the paper to be ruled into the three columns of ten spaces each, and let each space be known by the numbers corresponding to the columns and spaces. From the three columns of course-ends prick the M. lead from each course-end in its respective place. From each of these M.'s prick the corresponding W. lead produced with a bob B. in the course. The leads have now to be filled in with the bobs.

At the first M. in the first column 2 3 are behind, look through the other M. leads to see if they are again behind. They will be found behind at III. 5, and II. 7. The three leads with 2 3 behind at the M., therefore, already appear, so these three M.'s cannot be extended with bobs. In the actual construction of such tables, it is best to draw a line over the leads that have been extended, or that cannot be extended, to show that they have been examined. Take the M. at I. 2, when 4 5 are found behind, on looking over the other M's, 4 5 will be seen to come up behind once more, at II. 10. Only two of the three leads with 4 5 behind, namely, 3 6 2 4 5 and 2 3 6 4 5, therefore, appear. There is, however, another lead, 6 2 3 4 5, which can be had. If 3 6 2 4 5 is considered as a bob lead, 6 2 3 4 5 can be written above it, and the three leads with 4 5 behind at the M. will be included in the table. The bells behind at I. 3 (6 3) will be found to come behind once again, I. 8, at which place the other lead can be pricked. Proceeding to the next M., when 2 6 are behind, as it is the only place where they turn up in this position, the two other leads can be pricked backwards at this place. In like manner the remaining M.'s in the column should be looked over. The two other columns can be filled up in like manner, when each M. will be found to have the same number of leads as the one already filled up in the same horizontal line. As it may be rather perplexing to follow this description by referring to a table already filled up, I should advise my readers to endeavour to construct the table from this description without referring to the printed one.

The W.'s have now to be filled up in like manner: in this case the leads are, of course, *continued* by pricking bobs where they can be admitted. Care must, however, be taken not to add a single bob only to any course which has only one bob at the M. For example—at I. 5, 5 3 are behind at the W., they also turn up again only at III. 8, and it might be supposed that the three leads should be obtained by adding a bob at III. 8. This, however, cannot be done, as 1 M., 1 B., 1 W. would then be called in this course, and when the H. lead was pricked it would be the same as the course-end from which the first lead at the M. would come. The third lead with 5-3 behind is, therefore, unobtainable in this table.

Having filled in all the W.'s, prick the H. lead from the last of each of them, and fill in all the bobs that can be had at H. To make the table complete, alongside the W. in each course prick the plain lead that would be produced at the W. from the M., without a bob B. being called. This enables the course to be found, into which any course will run, if a bob B. is not called. For instance, if in the course I. 1, a bob B. was not called, the change at the W. would be 23465, this comes, with a bob B., at the W. in III. 7, and thus if, in the first mentioned course, the bob B. is omitted, you run into the course III. 7.

The table can now be used in this manner: take the M. lead from rounds, find it in the table, observe the course-end that results from this course, from this course-end mentally prick the M. lead that will come from it, find it in the table, see what course-end it gives, and so on. In doing this prick down the column and course used each time, because if the changes run into a course in another column, corresponding to one already used, a part end will have been reached. A practical example of the use of the table will, however, be of interest.

TABLE I. *Example*:—Write down the headings "Col. Course, 2 3 4 5 6 M., B., W., H." The M. lead from rounds is 4 2 6 3 5 and will be found at III. 10, the course-end of this course is 3 5 2 6 4 produced by a bob B, write these particulars under the respective headings, as annexed:—

Mentally prick the M. from this new course-end, it will be 2 3 4 5 6 and will be found at III. 9, with 3 5 6 4 2 for the course-end, the bobs in this course are 1 B., 1 H. The M. from this course-end is 6 3 2 5 4 to be found in I. 6, passing, however, over the two bobs at the M., and using the last M. as if it were the plain lead at the commencement of this course, which ends with 5 3 2 4 6. The M. from this is found at II. 5, and gives 5 3 4 6 2 as the course end, the M. corresponding to which, III. 4, gives the course-end 2 6 4 3 5, which runs into I. 3, from thence into III. 2, to II. 8, to II. 7, and to III. 1, when the course-end is 3 4 2 5 6. The next course runs into II. 10, and will therefore repeat through the corresponding courses of

Col.	Course.	2 3 4 5 6	M.	B.	W.	H.
III.	10	3 5 2 6 4		-		
III.	9	3 5 6 4 2		-		1
I.	6	5 3 2 4 6		-	1	2
II.	5	5 3 4 6 2		-		1
III.	4	2 6 4 3 5	2	-	2	1
I.	3	3 2 6 5 4		-		2
III.	2	3 6 5 2 4	1	-	2	2
II.	8	6 2 5 3 4	1	-		
II.	7	2 3 6 4 5		-		
III.	1	3 4 2 5 6		-		

each of the different columns: calculated from this part, the number of changes in the peal will be found to be 8,448, and the peal itself is Reeves's extent with the tenors together, rung in 1789, given on page 49.

Before attempting to compose peals much may be learnt by running old peals over on this table, and seeing how they are obtained by omitting certain bobs and running off into different courses. In composing I should advise my readers to be careful when omitting a bob B., or indeed at any other time that seven plain leads do not intervene, and that except in bobs B. that they do not at any time run from one call to the same place in another course without an intermediate bob. This, however, in composing from such tables is not likely to occur if care is taken to notice the position in the columns of the courses.

If Table I. be examined it will be seen that, although 30 courses are pricked, only 60 of the 90 leads that can be had by bobs at the M., W., and H. are produced. If every lead in the table was brought in there would, therefore, be only 8,640 changes, but as two of the M. leads in each part are passed over in the peal, the number of leads utilised is six less than the full number in the table, and thus it contains only 8,448 changes. It is therefore probable that another series of course-ends might give a greater compliment of bob leads.

In such a series of course-ends as those on page 70, it will be seen that 5-6 are always three times in the same places: for instance, with the sixth behind, there is 54326, 53246 and 52436 with the fifth always in second's place, and 42356, 34256 and 23456 with the fifth in its own place. These course-ends are annexed in Series I., where the sixth is arranged in each of the different places it will fall into, and it will be seen how the fifth is always three times in the same relation to it. The variation of these positions of the fifth and sixth in the course-ends will give a corresponding variation in the number of extra leads that can be introduced into a table. Series II. is another set of course-ends in which it will be seen that the fifth is not altogether in the same relation to the sixth.

COURSE-ENDS.

Series I.	Series II.	Series III.
63542	64523	65432
62534	62534	65243
64523	63542	63542
64352	64235	62453
63254	62345	63254
62453	63425	64352
56234	56423	56234
56423	56234	46253
56342	56342	26354
26435	26543	26435
46325	36524	46325
36245	46532	36245
35642	43652	54632
25634	24653	53624
45623	32654	35642
42635	42635	25634
34625	23645	45623
23645	34625	34625
25463	45362	25463
45362	25463	42563
35264	35264	34562
42563	53462	23564
34562	52364	32465
23564	54263	24365
54326	35426	54326
53246	45236	53246
52436	25346	52436
42356	42356	32546
34256	34256	43526
23456	23456	42356

TABLE II.

	I.		II.		III.	
1	563 42		564 23		562 34	
	234 65	426 53	342 65	236 54	423 65	346 52
	426 35		236 45		346 25	
	642 35		623 45		634 25	
	264 35		362 45		463 25	
2	526 43		536 24		546 32	
	652 43		653 24		654 32	
	265 43		365 24		465 32	
	354 62	436 25	452 63	246 35	253 64	326 45
	435 62		245 63		325 64	
	543 62		524 63		532 64	
	356 42		456 23		256 34	
3	453 62		254 63		352 64	
	236 54	625 43	346 52	635 24	426 53	645 32
	625 34		635 42		645 23	
4	235 64		345 62		425 63	
	523 64		534 62		542 63	
	436 25	642 53	246 35	623 54	326 45	634 52
	643 25		624 35		632 45	
	364 25		462 35		263 45	
	432 65		243 65		324 65	
5	456 23		256 34		356 42	
	645 23		625 34		635 42	
	352 46	234 65	453 26	342 65	254 36	423 65
	234 56		342 56		423 56	
6	642 35		623 45		634 25	
	523 46	354 62	534 26	452 63	542 36	253 64
	354 26		452 36		253 46	
	435 26		245 36		325 46	
	543 26		524 36		532 46	
7	342 56		423 56		234 56	
	625 43	564 32	635 24	562 43	645 32	563 24
	564 23		562 34		563 42	
8	245 36		435 26		325 46	
	524 36		543 26		532 46	
	452 36		354 26		253 46	
	623 54	365 42	642 53	265 34	634 52	465 23
	362 54		264 53		463 52	
	235 64		425 63		345 62	
	523 64		542 63		534 62	
9	362 45		463 25		264 35	
	236 45		346 25		426 35	
	564 32	453 26	562 43	254 36	563 24	352 46
	453 62		254 63		352 64	
10	643 52		624 53		632 54	
	364 52		462 53		263 54	
	436 52		246 53		326 54	
	265 34	523 46	365 42	534 26	465 23	542 36
	526 34		536 42		546 23	
	652 34		653 42		654 23	
	263 54		364 52		462 53	
	326 54		436 52		246 53	
	632 54		643 52		624 53	

TABLE III.

	I.	II.	III.	IV.	V.
1	426 35 642 35 264 35 543 62 356 24 354 62 436 52 643 52 364 52	265 43 526 43 652 43 324 56 435 62 432 56 245 36 524 36 452 36	653 24 365 24 536 24 462 35 243 56 246 35 623 45 362 45 236 45	534 62 453 62 345 62 256 43 624 35 625 43 564 23 456 23 645 23	342 56 234 56 423 56 635 24 562 43 563 24 352 64 235 64 523 64
2	432 65 243 65 536 42 654 23 653 42 365 42 534 62	246 53 624 53 345 26 532 64 534 26 453 26 342 56	625 34 562 34 423 65 346 52 342 65 234 65 426 35	563 42 356 42 264 53 425 36 426 53 642 53 265 43	354 26 435 26 652 34 263 45 265 34 526 34 653 24
3	452 36 245 36 524 36 643 25 362 54 364 25 436 25 642 35	236 45 623 45 362 45 524 63 456 32 452 63 245 63 526 43	645 23 564 23 456 23 362 54 235 46 236 54 623 54 365 24	523 64 352 64 235 64 456 32 643 25 645 32 564 32 453 62	364 52 436 52 643 52 235 46 524 63 523 46 352 46 234 56
4	465 32 546 32 263 45 324 56 324 65 432 65 243 65	253 46 325 46 654 23 462 35 462 53 246 53 624 53	634 25 463 25 532 64 256 43 256 34 625 34 562 34	542 63 254 63 346 52 635 24 635 42 563 42 356 42	326 54 632 54 425 36 543 62 543 26 354 26 435 26
5	256 34 463 52 345 26 345 62	635 42 254 36 423 65 423 56	543 26 632 45 264 53 264 35	324 65 546 23 652 34 652 43	462 53 325 64 536 42 536 24
6	532 46 624 35 463 52 463 25 346 25 634 25	346 25 562 43 254 36 254 63 425 63 542 63	425 63 356 24 632 45 632 54 263 54 326 54	263 54 435 62 546 23 546 32 654 32 465 32	654 32 243 56 325 64 325 46 532 46 253 46

TABLE No. II. is prepared from the second series of course-ends and ontains 69 out of the 90 extra leads. In it the courses of Thorp's 8,554 will e found. The course-ends in the series III. are those from which Mr. Lock- ood arranged his 9,120, and Table No. III. is constructed from them: this ble is arranged for peals on the five-part plan. In these course-ends the fth and sixth are not always three times in the same relation to one another, nd thus 85 of the extra bobs are had in the table, the remaining five being mitted in the courses that would otherwise have been 1 M., 1 B., 1 H., and erefore the number of changes in the table is 9,440.

Mr. Lockwood's peal is composed in this manner:—The M. from rounds is found in I. 1, which gives 3 6 4 5 2 as the course-end, this runs into I. 2, which gives 5 3 4 6 2, and runs into I. 3 when 6 4 2 3 5; these three courses repeat under columns II., III., IV., and V., at the end of which course the peal would come round. To prevent this, after the first W. bob in the last course, prick the H. lead (3 5 4 2 6), which will be found at V. 4, the course finishing with a bob at H. The M. from this course-end is 5 4 6 3 2, which will be found at the second M. lead at I. 4, and thus a bob M. is cut out of this course, the M. from this course-end is found at the second M. lead in II. 4, and the peal will run along this horizontal line of courses by the repetition of the calling of this last course. When the W. in V. 5 (4 2 5 3 6) is reached, a bob W. is called. Now this bob is not to be found in the table as when this course was constructed, it was omitted altogether, because 1 M. and 1 B. had already been called. In using these five courses in this peal all the 1 M.'s have been omitted, and the W. lead that was previously given up as inadmissible may therefore be admitted here, it will be 5 4 2 3 6. The H. from this will be 2 5 3 4 6, which is to be found at V. 6, and as no bobs at H. have been called yet with these bells behind, two may be pricked here which gives 5 3 2 4 6, and runs as it were two leads backwards into V. 6. The M. from this course-end turns up at I. 5, and the course finishes with 3 4 5 6 2, which runs into I. 6; if the last H. in this course is omitted the course will end 3 4 6 2 5, and the two last courses will repeat in sets of two courses, II. 5 and 6, and so on in the other columns. When, however, V. 6 is reached it must be remembered that two H. leads have been run backwards into this course, and that the changes can only run true into this course as far as the hand-stroke of the first H. lead. This hand-stroke change is 1 2 3 4 5 7 6 8, and as the changes cannot proceed any farther Mr. Lockwood here calls a "single," which brings "rounds" at the back stroke of this treble lead at the 9,120th change. The calling of this peal is appended, so that if any of my readers cannot follow this explanation they can observe the course-ends and follow the peal for themselves in the table.

The bells are brought round after the 9119th change by 2345 lying still.

The following are the changes at the treble's full lead at coming round. { 12345768 / 12345678 }

If 2 W. be called in the fifteenth course, marked thus *, and the 1 H. omitted, the peal will come round at the course-end and consist of 5,280 changes.

9,120 KENT TREBLE BOB MAJOR, BY JAMES LOCKWOOD, LEEDS.

23456	M.	B.	W.	H.
36452	2	•	1	2
53462	1	•	2	
64235	2	•	2	
45236	2	•	1	2
34256	1	•	2	
52643	2	•	2	
23645	2	•	1	2
42635	1	•	2	
36524	2	•	2	
64523	2	•	1	2
26543	1	•	2	
45362	2	•	2	
52364	2	•	1	2
65324	1	•	2	
*43526	2	•	1	1

(Continued)	B.	H.	W.
24365	•		2
62453	•		2
56234	•		2
35642	•		2
53246	•	1	2
34562	•		
34625	•		1
42356	•		
42563	•		1
26435	•		
26354	•		1
65243	•		
65432	•		1
53624	•		
23456	•		S.

The thirty false course-ends, against any thirty true ones, may be taken as the true course-ends, and a table constructed from them; thirty course-ends can be brought up in a great variety of ways; but as it has only been my intention to explain to my readers the principles upon which Mr. Lockwood's system of composing is founded, the examples I have already given are, I think, sufficient to enable them to proceed to the construction of their own course-ends and tables. For the construction of short peals, the most musical courses-ends may be selected, and the remaining ones omitted, when the course-ends selected can be well extended with bobs. Tables for two-part peals can be be made, when twenty-four course-ends will, I believe, be found to be the greatest number of true course-ends to be had in two-part peals. From a table of this construction, Mr. Tom Lockwood has obtained a two-part peal, containing 7,424 changes, the greatest extent of changes yet obtained in a two-part peal.

CHAP. VIII.—ON CONDUCTING AND CALLING ROUND.

If there is one important point in practical ringing it is that any one who attempts to conduct a peal should especially endeavour to qualify himself for the post, and that no incompetent man should be allowed to push himself forward into that position. Should the bells ever get displaced, either through some mistake of his own or some mishap in the ringing, it is absolutely necessary that the conductor should be able to perceive this at once, or, at least, before the bells have been going much longer. Nothing that I can say, however, will more fully impress upon men, who know little of the necessary qualifications of a conductor, the importance of the position, than the unhappy conclusion to which an incompetent man will probably bring their efforts.

Conductors may be arranged in three classes: the "totally ignorant," the "scientific," and an intermediate class, who conscientiously endeavour to qualify themselves for their duties, but are without the special abilities which make a scientific conductor. The "totally ignorant" merely know the bobs to be called, and the positions in which to make the calls. So long as the ringing goes on all right, and they do not forget to make the calls, such men answer the purpose as well as the most scientific conductors. If, however, the bells get displaced, or they omit or add a call, or even a course, they will probably not notice the error, and if the bells, meanwhile, do not happen to come round will proceed with the calling to what they consider the end, and then exclaim—"this should be all."

Having conducted a good number of peals, and yet not having any claim to be considered a scientific conductor, I may perhaps be said to belong to the intermediate class, and as a large number of ringers, unless they have special advantages and opportunities, will also belong to this class, an explanation of the manner in which I conduct a peal may be of interest. If the conductor rings an observation bell—say the tenor—it is perhaps hardly necessary to say that he will call the bobs by observing where he passes the treble. When he passes the treble in 4-5 he will be in the position to call any bobs at the W. as soon as he strikes behind. Bobs at H. are called when the tenor strikes home over the seventh, after dodging with the treble in

5-6, and bobs at the M., when it strikes into fifth's place in 5-6 down, after passing the treble in 6-7 out. Should a peal be in one or more long parts, I separate it into divisions of about three courses each, so that it may more easily be committed to memory; I also prick out and learn the coursing order in which the tenor will meet the other bells when it leaves the hunt at the last of each of these courses. Besides this, I notice the position of any course-ends, such as 3 2 4 6 5, that are in the peal, and are easily remembered, and, of course, endeavour to understand the general idea of the composer with regard to such a matter as the positions and the working of the sixth, or any other bell. This is not a scientific way of conducting, but it does very well for all ordinary purposes, and you cannot run more than a few hundred changes without having an opportunity of making sure that every bell is in the proper position.

If you know the course-ends you can easily observe the positions of the bells during the lead previous, and see whether they are right, as the bells going into and out of the hunt, at the lead-end, will be the bells in second's and third's places; the bell in fifth's place will be following the seventh down to the lead, and the bell in sixth's place will be going down before the tenor. Some men, therefore, commit to memory all the course-ends of a peal; this is rather a laborious undertaking, and unless you are well up in the matter it is rather hard, with the tenors say, "before," to tell what the exact positions of all the bells should be under the different circumstances of the various calls that may be made between that place and the course-end. In any cases where I learn the positions, I prefer, as previously stated, to take them from the coursing order found from the lead when the the tenors are "before," as the bells are then in the same position for, at least, five leads. For instance, in Kent, as soon as you have passed the last bob at the M., the bells are in the coursing order in which they will continue until a bob is called at the W. or H., the treble taking the place of the bell that is out of its position by being in the hunt. If a bob B. is called, the bell that is met last in the leads previous to the call, will afterwards be met first. To make this plain, take the course from rounds with a bob B.: the lead-end, when the tenor leaves the hunt, will be 7 8 6 4 5 2 3, now the tenor will meet the bells, as she leaves the hunt after the bob, and in the subsequent leads, 6 5 3 2 4, whereas in the previous leads they were met 5 3 2 4 6.

In calling a peal in regular parts, when the courses are somewhat similar, you may forget which course you are in: to avoid this I generally learn the coursing order in the last of such similar courses. Suppose there are four consecutive courses with bobs B., I then call bobs at this place until the bells fall into the coursing order I have committed to memory. When there are many double bobs in a peal it is not unlikely that, at times, the conductor may feel uncertain as to whether he has called one or two. An observation of this can be made by noticing the bell that is called out of the hunt at the first of these bobs, as at the second one it will make the bob, and the lead after will be following the treble down into the hunt. If there are many course-ends with double bobs at H., preceded with a double call at the W., and followed by the same at the M., as the same bell does this same work, at each of these double bobs, I frequently learn the bob making bells at the course-ends, when bobs in the different positions may be called until the known bell is met following the treble down, when it is obvious the double call has been completed.

In remembering the calling of a peal, the conductor will be greatly assisted by noticing the working of the sixth; because, if the sixth is at home at a course-end, and will also be at home at the next, if a bob M. is called, one B. must also be called, as the bob M. throws the sixth out of its proper position, and the bob B. brings it back again. If, in such a course, a bob M. is not called, there cannot then be one B., but there must be either one or two at the W. In like manner, if the sixth is in fifth's place at the course-end, if a bob is called at B. another must be called at the W., if the sixth is again to be in fifth's place at the next course-end.

The ablest class of conductors comprises those who know the positions of the bells throughout the peal. To know this it is not necessary to know the course-ends entirely. My friend Mr. Tom Lockwood, having learnt the calling of a peal, which he will principally do by noticing the positions of the fifth and sixth, can follow the course ends after this manner :—He watches the positions of the bells at the M. by the last course-end, until any bobs that are required at the M. have been called, he then mentally transposes the order of the bells at the last course-end, according to the calls that are in the ensuing course which gives the next course-end, he then dismisses the previous course-end from his mind, and proceeds to watch the bells according to the newly obtained course-end until after the bobs at the next M., when he then proceeds to bring up the following course-end, and so on. To do this, it is necessary to know the scale of course-ends ; and I think that any one who knows as much as this will not stand in need of any such hints on conducting as I can give.

A few hints with regard to calling Treble Bob from an inside bell may be of use. Minor peals are generally easily conducted from any bell, as the calling generally depends on the observation of certain bells on going in and out of the hunt. In Kent, as the bell following the treble down to the lead, and in Oxford, the bell going down before the treble, are the bells going into the hunt, they are tolerably easy to distinguish. In Major, or in any other number, the observations are based on similar principles, and made by noticing the number of bells between certain bells and the treble. The lead that the tenor comes W. may be known in this way, by observing that there is one bell between the seventh and treble, and at the M. one between the treble and tenor. After noticing when the tenor comes W., the calls at the H. and M. can easily be made by having a lead without a bob after the last call in each place. Another way to know the lead when the tenor comes W., is to remember that the first call for that position must be made at the end of the third lead after the tenor, which is also the second lead after the seventh, leaves the hunt. In any case it will be of great assistance to the conductor if he knows which place the bell he is ringing occupies; that is, if he is a second bell he will always lead at hand off the tenor, if a third bell he will lead off the tenor at back stroke, and the first call for the tenor at the W., for these bells respectively, will be into and out of the hunt. By practice, and a study of the different positions either in ringing or on paper, a conductor will learn to call from an inside bell with as much certainty, if not with as much ease, as from an observation bell, and will then have this advantage, that he will always be aware of the position of one of the working bells, and will find it as easy then to watch the position of the others as if he were ringing an observation bell.

In ringing, should the bells get misplaced or anything arise to prevent the ringing being carried on to the extent originally intended, it is as well that the conductor should understand how to call them into rounds; and it was, originally, my intention to give some elaborate rules by which this might be accomplished from any position, in the least number of changes. On consideration, however, I think that not only is this unnecessary, but that the real object might be defeated thereby, as, to be of any use, such rules must be very simple and easy to remember, so that when the necessity arises the conductor may be able to act upon them, from the mere recollection of their general principles.

The whole of this matter lies in remembering the different positions of the bells in the plain course, and endeavouring, at such times as they can be moved, to throw any bells that are out of those positions into the coursing order they have in the plain course; in doing this the truth of the changes is not considered. The plain course positions are, that the sixth goes into the hunt before the tenor, the seventh after the tenor, and the fifth after the seventh. At the M. lead, if the tenors are together, and the sixth is in front, by calling bobs, the tenor can be kept in sixth's place, at the lead end, until the sixth makes the bob, when the tenor will be in course with it. When the W. comes up, if you have the fifth in front, the seventh can be kept in fifth's place at the lead end, until the fifth comes out of the hunt, when they will be coursing each other; and thus 5 6 7 8 will be in proper coursing order, when bobs at H. will then bring 2 3 4 home. Should the bells be *out*-of-course, from two of them having changed places, the bells will come round at one of the dodging strokes of the treble. A bob B. can sometimes be called with advantage; but, at present, I am only desirous that my readers should understand that there are certain places only at which certain bells can be brought home; as, for instance, if the sixth is not behind with the tenor at the W., no amount of calling, in this place, can bring it home at the course-end.

The following are the principal rules for bringing the bells round:—Should the tenors be parted, as soon as either of them is in front keep it there, by calling it to make the bob, until you get the other in course with it; if they are then together in reverse order, that is, the tenor going into the hunt as the seventh comes out, call the seventh to make the bob, this will afterwards bring it into the hunt, when the tenor goes up into 5-6; as the seventh comes out of the hunt in the next lead call a bob, which will keep the tenor in fifth's place at the lead end, and bring the seventh coursing after it. When the tenors are before, whether reversed or otherwise, care should be taken to call a bob, if the sixth is by this means kept dodging in 5-6 out (7 8 5 6 3 4 2), the position it occupies in the plain course; because, unless it can be brought home here, it is impossible to get it home at the course-end. Such a call may, however, throw the fifth so that it will be in 5-6 or 7-8 at the W., when it cannot be brought home at the course-end. If the sixth cannot be brought home at the course-end, care must be taken that it is not in 5-6 or 7-8 at the M., when it should be in front to allow it to be brought home. If it is in second's or fifth's place, at the course-end, it will fall behind at the M.; this must be guarded against in the following manner:—The sixth must not be coming out of the hunt at the last W. lead, or it will fall into fifth's place at the course-end, and into seventh's place at the M.; nor must it be coming out of the hunt, at the course-end, or it will be in fifth's place at the M. Should it, therefore, be coming out of the hunt at the W. or H., another bob must be called to throw it out of that position in the last of the leads in those places. It will, therefore, be seen that the bells can only be brought home at certain places, and that unless care be taken will not always come home then. I, therefore, advise my readers to study this matter carefully for themselves; because, unless they are practically acquainted with the effect that the calls will have upon the bells, they will never be able to remember any rules that may be given for calling round; if, however, they prick down changes and consider the shortest way of bringing the bells round from the different positions, they will gain such information as will enable them, correctly and with confidence, when the occasion arises, to call up rounds, and cry, as I do now :—

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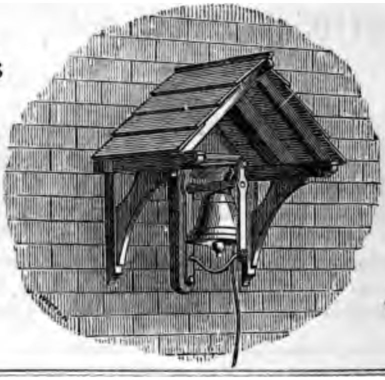

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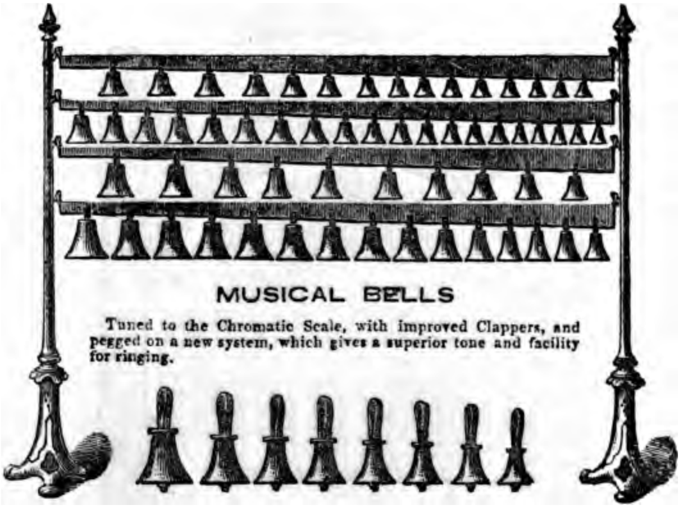
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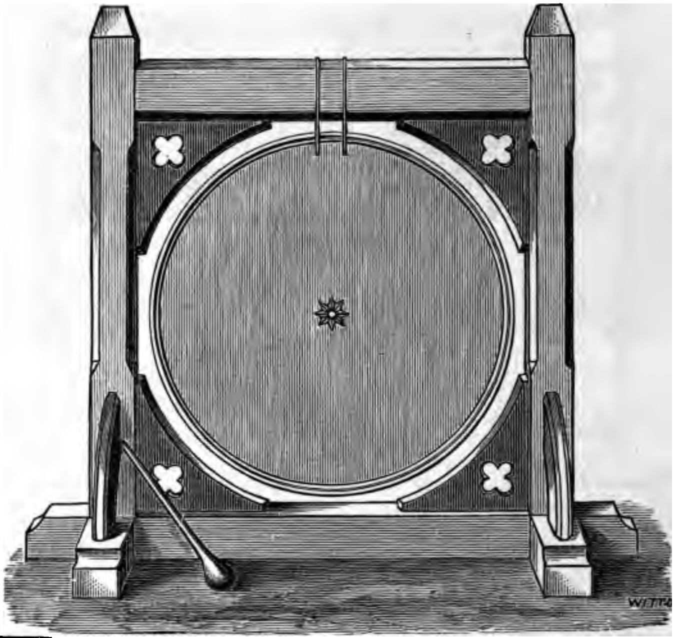

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A

TREATISE ON TREBLE BOB.

PART II.

CONTAINING

PEALS OF TREBLE BOB MINOR, MAJOR, ROYAL, AND MAXIMUS, WITH THEIR REVERSE VARIATIONS, ARRANGED UNDER A DISTINCT SYSTEM OF CLASSIFICATION; WITH REMARKS UPON THE DIFFERENT QUALITIES TO BE FOUND IN THE VARIOUS CLASSES; AND PARTICULARS OF THE FIRST TIME OF PERFORMANCE ETC.

BY

JASPER WHITFIELD SNOWDON,

President of the Yorkshire Association of Change Ringers;
also a Member of the Ilkley Amateur Society of Change Ringers; the Ancient
Society of College Youths; the St. James's Society of Change Ringers; the Waterloo Society
of Change Ringers; the Norwich and Durham Diocesan Associations of
Change Ringers; and the Guild of Devonshire Ringers.

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INTRODUCTION.

PROBABLY there is not a system of ringing in which so great a variety of musical compositions has been produced as in the Treble Bob method. When it is considered that in any one course there may be from one to seven bobs, most of which may be either called or omitted without parting the tenors, the enormous number of different compositions that may be obtained is easily comprehended.

Since the publication of the *Clavis Campanologia*, by Jones, Reeves, and Blakemore, in 1788, in which the first published peals of Treble Bob are to be found, several other works, notably those of Messrs. Shipway, Hubbard, and Sottanstall, have appeared giving various peals in this system. No one book has, however, attempted to give anything like the total number of these compositions, nor has any endeavour been made to arrange the selections under any intelligible classification; and indeed, as in the case of Mr. Sottanstall's book wherein the greatest number of these examples are to be found, exactly the same peals are given twice over and simple variations of the same peal, produced by merely commencing at different course-ends, are very numerous. In the absence of any collection of peals to which reference might be made, it is not therefore surprising that peals have been reproduced which had been composed and rung many years previously, indeed many of the peals which appeared in Reeves's and Shipway's books, in 1788 and 1816, have since been brought out as original productions.

In order that I might satisfy myself or my friends whether any peal submitted to me as a new one had any claims to originality, I began, about two years ago, to form a collection of Treble Bob peals. My first steps were to copy and arrange, under a definite classification, all the peals to be found in the different works on ringing. These peals I entered according to the order in which they were published, and side by side with them I placed their reverse variations. By a comparison with the peals already entered I was thus able, in entering those of more recent dates, to discriminate between mere variations and original compositions. Whenever a peal appeared in another publication, with a different name attached as its composer, I made every endeavour to learn who was the original author, and to place the peal to the credit of the composer who first produced it. Besides the collection of published peals I thus got together, I had in my hands many MS. peals, which I also entered; and finally, to obtain, if possible, all the latest compositions, I notified in *Church Bells*, March 9th, 1878, my intention of publishing this collection, and also personally wrote asking all the known Treble Bob composers to send me any of their unpublished compositions. In this way I have gathered together the peals to be found in the following pages, which make up as complete a collection of Treble Bob compositions as I have found it possible to obtain up to the close of the year 1878.

In Major I have, with a few exceptions in the "miscellaneous" one and two-part peals, given all the peals in my possession, with the tenors together. There are, therefore, amongst the five and three-part compositions a good many of what may be called "ordinary"—very ordinary—peals. My object in giving all these peals, in preference to making merely a selection from them, has been to prevent their re-production, as I considered that unless they were to be found in this collection young composers would probably take the trouble to reproduce and ring them and affix their names to the compositions as the authors. Had it not been for this I should not, in five-part peals for instance, have given those over 5120 changes unless they ran into another 1000 or had some other redeeming feature. In Major, with the tenors parted, I have only given a selection of the most musical and curious examples, as, unless some particular object is gained by parting these bells, I do not think much interest is taken in such peals by the Exercise generally. In Royal and Maximus I have given all peals of interest, but have omitted many compositions that had nothing more than their truth to recommend them; on these greater numbers I have not been so particular about presenting the reverse variations, as I consider that amongst composers and conductors of ten and twelve bell peals that such a simple matter will be so thoroughly understood as to render this unnecessary.

When, a few years ago, I first became acquainted with the elementary principles of composition, and, after studying the different books on ringing, had also become acquainted with the best known examples of peals, I was surprised to notice what very little regard was paid to the claims of original composers, and how that some persons evidently considered that if a peal was obtained by legitimate composition that they had as much right to attach their names to it as its original composer. Of course this is a mistake. Were such proceedings allowed, it would be open to anyone to *say* they or indeed as musical as some of the old ones, but each one distinctly represents a mark of progress in the science of composition. Were the musical properties of a peal the only consideration in its selection, it would then be for us to decide which was the most musical composition, and confine ourselves solely to its performance; under such circumstances it is probable that few peals would be rung and still fewer composed. For my own part I am always desirous, should I have anything to do with the selection of a peal, that it should present some distinctly musical feature; at the same time I would not, if I could avoid it, take part for a second time in the performance of the same peal, and would also at any time give the preference to a composition which had not been previously performed. Indeed, I am glad to say that although I have now rung seventy-one peals of 5000 changes and upwards, I have never rung the same composition for a second time.

In this collection of peals I have, whenever I have been able to obtain the information, stated when and where any peal was rung for the *first* time. Of course I am well aware that many of the peals which have not such notes attached to them have already been performed, but I regret that only in very few cases has the information, for which I asked in *Church Bells*, March 9th, 1878, concerning first performances been forwarded to me. My object in giving these dates is to give some idea of the time when the compositions were obtained. For instance, when we find that the 5088 of Mr. Hudson's (page 27), was first performed in 1816, we can easily understand that he obtained this peal before several of the more recent composers who have since reproduced it. Again, with regard to the peal of 5568 (mentioned on page 14), I have, since the remarks there made were printed, ascertained that it was composed by Mr. Day, in 1825: this is conclusive evidence that Mr. Day obtained it before any of the other composers there alluded to, and had it been rung about that time, and the date of its first performance been preserved, such information would at once have removed all doubt as to the correctness of Mr. Day's claim to it. With the same object of fixing the probable date at which some of the peals in this collection were obtained, I have compiled a list of the names of the different composers, giving in the cases of deceased composers, whenever I have been able to obtain the information, the exact dates of their deaths and the ages to which they lived.

Although this list may only occupy a small portion of space in these pages, it has not been compiled without a great deal of trouble, and to those friends who kindly assisted me to the information contained therein, I take this opportunity of returning my thanks. I must also express my obligations to Mr. Wm. Harrison, of Mottram, for the kind assistance he has rendered me in connection with this collection of peals, not the least of which is the correction of the following sheets from which the annexed list of "Corrections" has been prepared.

JASPER W. SNOWDON.

Old Bank Chambers,
Leeds, December 31*st,* 1878.

TABLE OF COURSE-ENDS.

M	W	23456	M	B	W
1		43652	2	–	1
1	1	54632	2	–	2
1	2	35642	2	–	
2		63254		–	1
2	1	56234		–	2
2	2	35264		–	
	1	52436	1	–	2
	2	35426	1	–	

A full table of course-ends is given in Part I. (p. xv.), but as such a table will no doubt be of service in connection with the peals in the following pages, I here give the foregoing skeleton form of the table. From this it will be seen that *every* course-end may be known from the above eight; as, to obtain the course-ends produced by adding single or double bobs at H., these course-ends have, respectively, to be transposed, as 42356 and 34256 are from 23456.

CORRECTIONS.

PART I.

PAGE.

xii. Line 10, for "version" read "revision."

xv. The calling, 2 M. 1 B. 1 W. and 1 M. 1 B. 2 W., cannot be repeated, as the lead-ends at the M. in the former, and the W. in the latter, will be false.

10. Line 10, for "15648" read "15840."

49. In the variation of Reeves's peal, for "M. H. W." read "M. W. H."

56. First line, second paragraph, read: "To prove *the lead-ends* of a peal," &c.

59. Line 6 from bottom, for "C comes from A," read "C comes *at* A," &c.

62. In the table constructed by transposing the lead-ends of the plain course by the general proof scale, the positions of the treble in 5-6 and 7-8 have been transposed: that is, in these places, for "up" read "down"; and for "down" read "up." This error runs through the tables on pages 63 and 65.

PAGE.

66. Add 2 H. in the seventh course of the 5056.
67. In the fourth transposition under 2 4 3 6 5, for "5 2 4 6 3" read "5 2 4 3 6."
77. Line 8 from bottom, for "8554" read "8544."
79. Since this was written, Mr. Lockwood has obtained a two-part peal of 7488 changes.
84. Line 5 from bottom, for "second's or fifth's places" read "*third's* or fifth's places."

PART II.

5. In the reverse of the last 6080, by Mr. Harrison, the last course-end should be 5 6 2 3 4 with 2 M. instead of 2 W.
10. In the first course of the first 8160 the 2 under W. should be under H.
17. The 6336 is false in the treble leads.
28. In the explanation of the variation on Mr. Harrison's 6048, read: "If the fourth course-end be called 2 M. 1 B. 2 W. 1 H., and the fifth 1 W.," &c.
35. For the last course-end of the reverse of Mr. Sottanstall's 5056, read 4 5 2 3 6.
38. Add a mark under B. in the seventh course of the 5056.
39. Add 2 H. in the third course of the reverse of the 5184.
39. Instead of 2 H. in the third course of the original of the 5248, read 1 H.
41. For the last course-end of the 5120, read 4 5 2 3 6.
42. In the reverse of the 5376 the alternative calling mentioned *is* used, and this variation therefore runs to the 5504 changes.
52. Add 2 H. in the tenth course of the reverse of the 5280.
53. For the length of the "5248" read "5280."
53. Strike out the marks under B. in the first and fifth courses of the reverse of Mr. Marsh's 6016.
87. The observation bell in the first part of the 5280 is the seventh; in the second part the sixth, and, in the last part the tenor.
90. For the first course-end of the 12000, read 6 2 7 3 5 4.
92. For the second course-end of Mr. Day's peal, read 5 2 7 3 4 6.
97. The first 6000, by Mr. Marsh, is false.
100. In the last course of the reverse of the 7440, add 2 H.
101. Omit the 2 under W. in the first course of the 8000.
103. Second foot-note—for "April 1st," read "April 21st."

CHAP. I.—TREBLE BOB MINOR.

THE first of the following 720's of Treble Bob Minor is on the ordinary three-part plan, with the sixth the observation bell. This peal can be varied by the use of different observation bells, as is explained in most of the elementary works on ringing. The peals following have, respectively, twelve and fifteen bobs, the second of each being the reverse of the previous peal.

720	720		720	
23456	23456	23456	23456	23456
42635	42635	42635	42635	42635
- 64235	- 64235	64523	- 64235	64523
- 26435	26543	- 56423	26543	56342
42563	52364	- 45623	- 52643	35264
54326	35426	64352	65324	- 23564
35642	43652	36245	36452	- 52364
- 63542	- 64352	- 23645	- 43652	35426
56234	- 36452	62534	- 64352	- 43526
25463	43265	- 56234	36245	- 54326
42356	24536	- 25634	- 23645	35642
34625	52643	62453	62534	63254
- 63425	- 65243	46325	56423	- 26354
- 46325	26354	34562	- 45623	- 32654
34562	- 32654	53246	- 64523	63425
53246	- 63254	- 25346	56342	46532
25634	26435	- 32546	35264	- 54632
- 62534	42563	53624	- 23564	65243
56423	54326	- 65324	- 52364	- 26543
45362	35642	36452	35426	- 52643
34256	- 63542	43265	- 43526	65324
23645	- 56342	24536	- 54326	36452
- 62345	35264	- 52436	35642	- 43652
- 36245	- 23564	- 45236	63254	64235
23564	52436	24653	26435	- 26435
52436	45623	62345	42563	42563
45623	- 64523	36524	- 54263	- 54263
- 64523	- 56423	53462	- 25463	- 25463
56342	45362	- 45362	42356	42356
35264	34256	34256	- 34256	- 34256
23456	- 23456	- 23456	- 23456	- 23456

CHAP. II.—TREBLE BOB MAJOR.

FIVE-PART PEALS.

In a five-part peal each of the five "working" bells, as those which are removed at the part-ends are called, occupies the same number of different positions at the course-ends. The distinctive features of such peals are, therefore, much less numerous than those to be found in peals contained in a less number of parts. This renders the classification of five-part peals very simple, and after dividing them into classes, according to the number of courses in which they are composed, the only arrangement followed in these pages, has been to place them in order according to the sum of their changes, and then to arrange those of the same length according to the number of bobs at H. which they contain, those with the greatest number of these bobs being placed first.

Peals with three courses in each part.

5120

23456	M	W	H
56342	1	2	2
53462		1	2
54632		1	2
36452	1		2
62453	1		2
36524	2	1	2

J. Reeves.

5120

23456	M	B	W	H
46532	1		1	2
34625		-		2
45623	2	-	1	2
52364		-		2
34625	1		1	2
36245	1	-	2	2

J. Thorp.

*5120

23456	M	B	W	H
32654		-	1	2
46253	1			1
54632	2		2	2
23564	2		2	1
25634			1	2
36524	1	-		2

J. Dixon.

5120

23456	M	B	W	H
64352	1			1
46253		-	1	2
54632	2		2	2
52364	2		2	2
32654	1	-		1
36524			1	2

J. Dixon.

5120

23456	M	B	W	H
52364	2		2	2
32654	1	-		1
56234	1	-		2
52364	2		2	2
54263		-	1	1
45362		-	1	2

J. H. Hardcastle.

5120

23456	M	W	H
26354	2		1
62453	2		2
65324	2	1	1
56342	1	2	2
36452		2	1
46532		2	1

J. Heron, Junr.

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* First rung on December 11th, 1875, by the Yorkshire Association, at St. Peter's, Birstall. Conducted by its Composer.

5120

23456	M	W	H	23456	M	W	H
64352	1		1	63542	1	2	1
24536	1	2	1	64235	2	1	1
62345	2	1	2	62345		1	2

J. Lockwood.

5120

23456	M	W	H	23456	M	W	H
45236		1	1	23564	2	2	1
45362	2	2	1	34562	1		2
54263	2		2	54632		2	1

W. Sottanstall.

5120

23456	M	W	H	23456	M	W	H
64352	1		1	23564	2	2	1
64523	2	2	1	25634		1	2
46325	2		2	65324		2	1

W. Sottanstall.

5120

26345	M	B	W	H	23456	M	B	W	H
65432	2	-	2	1	65432	2	-	2	1
34562			2	2	52436	1			2
56342			1	1	56234	2			1

W. Sottanstall.

5120

23456	M	B	W	H	23456	M	B	W	H
65432	1		1	1	36452	2	-	1	2
34562			2	2	32654	2			1
56342	1	-	2	1	45623	1		1	1

J. Wilde.

5120

23456	M	B	W	H	23456	M	B	W	H
24536	1	-	2	2	36452	2	-	1	2
43526			2		54263	1		1	
56234	1		1	2	45362	2			2

J. Thorp.

5120

23456	M	B	W	H	23456	M	B	W	H
43526	1	-		1	54632	2	-	2	
24536	1	-	2		26435	2	-	1	1
56342	2	-	2	2	62534		-	1	2

J. Lockwood.

5120

23456	M	W	H	23456	M	W	H
23564	2	2	1	26354	2		1
65324		2	2	65243	2	2	
52364		2		56342	2		2

W. Harrison.

5120

23456	M	W	H	23456	M	W	H
35264	2	2		63542	1	2	1
36452	2	1	1	34256	1	2	
52364	2	1		45362	2	2	

5280

23456	M	W	H	23456	M	W	H
52364	2	2	2	36452	1		2
53624		1	2	62453	1		2
56234		1	2	56234	2	2	2

J. Reeves.

5280

23456	M	W	H	23456	M	W	H
52364	2	2	2	52364	2	2	2
43265	1		1	32654		2	1
34562	2		2	36524		1	2

H. Hubbard.

5280

23456	M	W	H	23456	M	W	H
52364	2	2	2	23564	2	2	1
25463	2		2	25634		1	2
34562	1		1	36524		2	2

5280

23456	M	B	W	H	23456	M	B	W	H
25634	2		1	1	36452	2	–	1	2
36524	1	–		2	32654		–	1	1
35264	1	–	2	2	54263	1		2	2

W. HARRISON.

5280

23456	M	B	W	H	23456	M	B	W	H
56342	2	–		2	56342	2	–		2
25463		–	2	2	54263		–	2	1
34562	2	–	1	1	52643	1	–	2	2

T. HAIGH.

5280

23456	M	B	W	H	23456	M	B	W	H
65432	2	–	2	1	32654		–	1	2
64352	1	–	2	2	46253	2	–	1	1
34562	1	–		1	35264	2	–	2	1

J. BUCKLEY.

Omitting a bob at H. in the thirteenth and one at the W. in the fourteenth course of the following 5440, by Mr. Hubbard, reduces it to 5024 changes. Mr. Dains's peal is a composition proceeding from his peal of 8000 changes, which will be found at a subsequent page.

Omitting the last bob at H. in the thirteenth course and calling 2 M., 2 W., 2 H., in the next course of the following 5600, by J. Reeves, reduces it to 5280 changes.

5440

23456	M	W	H	23456	M	W	H
52364	2	2	2	52364	2	2	2
32654		2	1	54263	2		1
56234		2	2	45362	2		2

H. HUBBARD.

*5440

23456	M	W	H	23456	M	W	H
56342	1	2	2	62534	2	1	2
36452		2	1	63425	2	1	1
52643	1	2	2	36524	2		2

C. MIDDLETON.

5440

23456	M	B	W	H	23456	M	B	W	H
63542	1		2	1	65432	2	–	2	1
45236	2	–	2		26354	2		1	2
56234	2	–	1	2	52364	1	–	2	

H. DAINS.

5600

23456	M	W	H	23456	M	W	H
52364	2	2	2	36452	1		2
64235	1	2	2	23564	2	1	2
62345		1	2	62345	2	2	2

J. REEVES.

5600

23456	M	W	H
35264	2	2	
56342	2	2	
45623	2	2	2

W. SOTTANSTALL.

* First rung on March 5th, 1855, at Loddon, Norfolk. Conducted by J. Truman.

Peals with four courses in each part.

In the following peals, which contain four courses in each part, the first one of 5120 changes can be curtailed to 5024 by calling the annexed three courses instead of any one of the parts. If 2 H. be called in the second course of any one of the parts of Mr. Harrison's 5600, the part-end will be produced and the peal reduced to 5024 changes.

23456	B	W	H
52364	–		2
64523	–	2	
36245	–	2	2

* 5120

22456	B	W	H
35264	–		
56342	–		
64523	–		
36245	–	2	2

23456	M	B	H
35642	2	–	
54326		–	
42563		–	
64235		–	2

Unknown.

5120

23456	M	B	W	H
35426	1	–		
52364		–		
26543		–		
62345		–	1	2

J. Thorp.

5120

23456	M	B	W	H
45236			1	1
53462		–		
36524		–		
45623	1			1

23456	M	B	W	H
52436			1	
23564		–		
23645		–		1
56342	1			1

G. Crute.

5120

23456	M	B	W	H
35264		–		
42563	1			1
32465		–	1	
52364		–	1	

23456	M	B	W	H
35264		–		
56234	1	–		
26354	1	–		1
52364			1	

J. Lockwood.

5600

23456	M	B	W	H
35264		–		
25634	1	–		1
36524			2	2
62534	1	–		

23456	M	B	W	H
26354	2			1
46253		–	1	
65432		–		
56234		–	1	2

W. Harrison.

6080

23456	M	W	H
64352	1		1
63542		1	2
53462		2	1
46532		1	1

23456	M	W	H
64352	1		1
46253	2		2
32654	1		1
65324		1	1

J. Reeves.

6080

23456	M	W	H
64352	1		1
53462		2	2
54632		1	2
35642		1	

23456	M	W	H
26354	2		1
52364		1	
24365	1		2
45362	1		2

W. Harrison.

6080

23456	M	B	W	H
23564		–		1
32465		–	1	2
42635			2	1
62345			2	1

23456	M	B	W	H
43526	1	–		1
43265		–		1
45362	2			1
54263	2			2

W. Harrison.

6080

23456	M	B	W	H
63254		–	1	
36452		–	1	2
34562			1	2
54632			2	1

23456	M	B	W	H
32654	2			2
24653	1			2
45623	1	–		
65243	1	–		1

W. Harrison.

6080

23456	M	W	H
36452	1		2
46532		2	1
56342		2	1
45362		1	

23456	M	W	H
52436		1	
64235	1		1
65432	2		1
34562		2	2

W. Harrison.

6080

23456	M	B	W	H
54632	1		1	
43265	1		2	
34562	2			2
46532	1	–		

23456	M	B	W	H
32654		–	1	2
25634			2	
34256	2		1	
52643	1		1	

S. Austin.

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* First rung by the Union Scholars, on December 27th, 1718. (See part I. p. 2.)

In the following peals the 6720 by Mr. Dains is deduced from his peal of 8000. The first of the peals of 6400 by J. Reeves can be brought round in 6112 changes, by calling the nineteenth course, 2 W., 2 H.

In the 6400 of Mr. Harrison's, if the first course in any one part is called, 1 M., 2 W., 2 H., it will be reduced to 6112; or if the third course in any part be called, 1 W., it will bring up the part-end and reduce the peal to 6048 changes.

6240

23456	M	W	H	23456	M	W	H
24536		1	2	64352	1		1
25346		1	2	35642		1	1
35426		2	1	53246	2		2
64523	1		1	36245	1		2

H. Hubbard.

6240

23456	B	W	H	23456	M	B	H
26354	–	1	1	32654	2		2
23564		1	2	24653	1		2
25634		1	2	36452	1		1
65324		2	1	46532	1	–	1

J. Thorp.

6400

23456	M	W
35264	2	2
64352	2	1
53246	1	1
34625	1	2

J. Platt.

6400

23456	M	W	H	23456	M	W	H
26354	2		1	32654	2		2
23564		1	2	24653	1		2
25634		1	2	36452	1		1
65324		2	1	46532		2	1

J. Reeves.

6400

23456	M	W	H	23456	M	W	H
46532	1	1	2	64352	1		1
56342		2	1	62453	2		1
36452		2	1	26354	2		2
45362		1	1	45362	1	1	1

W. Harrison.

6400

23456	M	B	W	H	23456	M	B	W	H
36452	2	–	1	2	52436	1	–	2	
46532	1	–		1	64235	2	–	1	1
56342	1	–		1	65432		–	1	1
45362	1	–	2		56234		–	1	2

J. Buckley.

6720

23456	M	B	W	H	23455	M	B	W	H
46532	1		1	2	65432	2	–	2	1
46325		–		1	36524		–		2
23564	2	–	2		54263	1		1	2
34562	2	–	1	2	65243	1	–	2	

H. Dains.

6720

23456	M	B	W	H	23456	M	B	W	H
32654		–	1	2	54326	1	–		2
46253	2	–	1	1	56423		–	1	1
25463	1	–	2	1	34625	2	–	1	1
64523	1	–		2	36245	1	–	2	2

J. Lockwood.

When five-part peals contain four courses in each part, and a double bob at H. is called at each course-end, such peals contain the sixty course-ends. (Part I. pp. 41-42.) The least number of changes in which this quality has been produced is 6720, of which the two following are the only legitimate peals yet obtained.

* 6720

23456	M	B	W	H	23456	M	B	W	H
52364		-		2	52364		-		2
63254			2	2	24365	2	-	1	2
62534			1	2	45362	1			2
65324	1	-	2	2	54263	2			2

J. REEVES.

6720

23456	M	B	W	H	23456	M	B	W	H
36452	1			2	36452	1			2
54632	1	-		2	63254		-	1	2
56342			1	2	62534			1	2
62345	2	-	1	2	65324	1	-	2	2

J. COX.

Mr. Thorp has produced similar peals to these by the addition of a bob B. in each part; this of course merely produces the same changes in different places, but as they give a further choice from which such a peal may be selected these variations are annexed. The 6880 of Reeves's likewise contains the sixty course-ends.

6720

23456	M	B	W	H
52364		-		2
45623		-	2	2
46253			1	2
42563	1	-	2	2

REEVES'S.

6720

23456	M	B	W	H
32654		-	1	2
36524			1	2
35264	1	-	2	2
62534	1	-		2

COX'S.

6880

23456	M	B	W	H	23456	M	B	W	H
52364	2		2	2	36452	1			2
65243		-		2	63254	2			2
42563			2	2	56342		-		2
45623			1	2	45623	2		2	2

J. REEVES.

Several peals have been published which are, however, only curtailed from one or other of the foregoing 6720's. In the appendix to Shipway's work, a peal by W. Williams is given; this is the first of these peals, by Reeves, reduced to 6112 changes, by the introduction of the two annexed courses instead of the second part.

65324	M	B	W	H
46253		-	2	2
42563	1	-	2	2

Of course when a short part, instead of an entire part, is introduced into a peal originally divided into several equal parts, it is immaterial, so far as the truth of the peal is concerned, which of the original parts the shortening part supplants. As each 6720, however, necessarily contains the second, third, fourth, fifth, and sixth bells, their extent each way in 5-6, it is usual to reduce the courses in the parts when the second or third bells are behind, as these changes are less esteemed than the ones which turn up when the fourth, fifth, or sixth are behind at the course-ends.

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* First rung at Camberwell, in 1794. (See Part I. p. 3.)

An alternative reducing part is of much use, should anything occur to render it preferable to shorten the length of a peal. For instance, Mr. Hubbard has published a peal which, composed before the theory of reversing peals was generally known, is, unfortunately, merely the reverse of Reeves's 6720; but he has shown that if a bob B. be called in the last course of the fourth part of this peal, that the bells come round at that course-end, and the peal consists of 5376 changes, with the sixth the extent each way in 5-6.*

Mr. Sottanstall publishes a peal which is the same as Cox's 6720, with the extra bob B., but by the introduction of the three annexed courses, he cuts out the third and fourth parts, when the third and second are behind, and reduces the peal to one of 5056 changes, with the sixth bell the extent each way in 5-6. Thus, after ringing the first three parts of the 6720 in question, by calling three courses in this manner, the peal can be brought round at the 5056th change.

46325	M	B	W	H
54263		–	2	2
45362		–	1	2
35642			2	1

Mr. Cox reduces the original of his 6720 to 5024 by calling, from the third part end, three courses as annexed.

45623	M	B	W	H
65243	1	–		1
62453			1	2
23456	2	–	1	2

In the following peals of 7000 changes, Mr. Platt's peal may be varied by the addition of a bob B. in the third course, as is shown in the reverse variation.

† 7040

23456	M	B	W	H
23564	2		2	1
32465	2			2
64235			2	2
62345			1	2

23466	M	B	W	H
36452	1			2
52643	2	–		2
62453			2	1
56234	2		2	2

J. PLATT.

7040

23456	M	W	H
35426		2	
35264	2	2	1
43652	2	1	2
62534	1	1	2

23456	M	W	H
46532	1	1	2
26354	1	2	1
65243	2	2	
56342	2		2

J. LOCKWOOD.

7040

23456	M	B	W	H
52364	2		2	2
34625	1		1	2
42635			2	
36524	2	–	2	

23456	M	B	W	H
35264	2		2	
62453	2	–	2	
26354	2			2
34562	1		1	2

W. HARRISON.

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* This peal (5376) was first rung at Birstall, in 1853. Conducted by W. Goodall.

† First rung on March 13th, 1858, at Glossop, in 4 hrs. 9 mins. Conducted by John Lawton, Tenor, 15 cwt.

Peals with five courses in each part.

Only one peal of less than six thousand changes, contained in five courses in each part, has been composed; this peal, which follows, can be curtailed to 5024 changes by calling 1 B. 2 W. from the fourth part-end, or by substituting that course for any one of the parts, and was rung at this length at Mottram in 1847. The next numbers of changes in which five-course peals have been obtained are 6400 and 7040, as follows :—

5920

23456	M	B	H	23456	B	W	H
35264		–		52436		1	
56342		–		23564	–		
64523		–		36245	–		
42635		–		64352	–		
56234	1		1	64523	–		1

H. WARHURST.

6400

23456	B	W	H	23456	M	B	W	H
26354	–	1	1	43526	1	–		1
62453	–	1	2	32546	1	–		
25634	–			24365		–		
53246	–			46253		–		
34562	–			54632		–		2

W. HARRISON.

6400

23456	B	W	H	23456	M	B	H
45236		1	1	64352	1		1
53462	–			45236	2	–	
36524	–			53462		–	
62345	–			36524		–	
64523	–	2	1	36245		–	1

T. GREENWOOD.

7040

23456	M	B	W	H	23456	M	B	W	H
52364	2		2	2	26354		–	1	1
26543		–			65243		–		
64235		–			54632		–		
64352		–		1	35426		–		2
34562	1	–		1	35264	2		2	1

H. HUBBARD.

The following peals are remarkable for containing exactly 8000 changes, without the tenors being parted. This number so long defied the skill of composers that it was not until quite recently that the first peal of this number was obtained by Mr. Harrison.

In the same manner that the two original 6720's, by Messrs. Reeves and Cox, can be varied by the addition or omission of bobs B. several of the peals of 8000 changes, and upwards, which follow, may also be altered in their calling. As would be gathered from my remarks on the 6720's, I do not consider that such an alteration can in any way be regarded as of such consequence as to render the peal the property of any other than the original composer, and, as an instance of this, I may say that when I called the 8000 I received from Mr. Harrison, I, according to a suggestion of Mr. T. Lockwood's, commenced it at a different course-end and omitted one of the bobs B. making the peal similar to the original of the following 8000 by Mr. Harrison. Besides the advantage of a simple part-end that is obtained by this calling, and the two bobs at H. with which the peal then finishes, Mr. Lockwood constructed the annexed shortening courses. From the fourth course-end in the third part (6 3 4 2 5) call the two courses as shewn, and the peal will come round in 5088 changes. Surely such an alteration would give as much cause for claim on this peal as would any of the variations mentioned on the different 6720's, yet, of course, the peal was reported as Mr. Harrison's, just as if it had been rung in exactly the same form as that in which it was received. The extra bob B. is added in the reverse of the 8000 which follows.

63425	M	B	W	H
25346	2	–		2
23456			1	2

Mr. Dains's 8000 is superior to Mr. Harrison's, in having several of the bobs removed from the M.'s and W.'s to the H.'s. In the reverse of Mr. Dains's peal, if two bobs at H. be called at the third part-end, the first course-end of the last part of the peal will be produced when, by calling the four last courses, the peal will come round at 6080 changes.

8000

23456	M	B	W	H	23456	M	B	W	H
36452	1			2	65432	2	–	2	1
46532	1	–		1	65324		–		1
46325		–		1	56423		–	1	2
23564	2	–	2		54263			1	2
34562	2	–	1	2	65243	1	–	2	

H. DAINS.

* 8000

23456	M	B	W	H	23456	M	B	W	H
52436	1	–	2		35642	1		2	
23564	2		2		35426		–		1
24365	2			1	52436			2	
46253		–			34625	2	–	2	
34562	2		1	2	45623	2	–	1	2

W. HARRISON.

The bobs B., that may be used or omitted in the following 8160's, are omitted in the original, and added in the reverse examples.

8160

33456	M	B	W	H	23456	M	B	W	H
32654	2		2		36452	1			2
45623	2	–	2	1	54632	1	–		2
46253			1	2	26435	1			1
42563			1	2	45362	2	–	2	2
64523			1		56342			2	

W. HARRISON.

8160

23456	M	B	W	H	23456	M	B	W	H
35264	2		2		36452	1			2
34562	2			1	46532	1	–		1
43265		–	1	2	63542			2	
42635			1	2	45236	2	–	2	
34625	1	–	2		56234	2	–	1	2

W. HARRISON.

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* First rung on December 15th, 1877, by the Yorkshire Association, at All Saints', Otley, in 4 hrs. 28 mins. Conducted by Jasper W. Snowdon, the first true 8000 ever rung without parting the tenors. Tenor, 16 cwt.

Peals with six courses in each part.

When a five-part peal contains six courses in each part, as in Thurston's 7360, which follows, it consists of thirty courses—the greatest number of courses that can be had with the tenor's together—and (Part I., p. 42) contains the sixty 7 8's before.

* 7360

23456	B	W	H	23456	M	B	H
26354	–	1	1	23564		–	1
24653	–	1	1	53624	1	–	1
45236	–			32654	1	–	
53462	–			25346		–	
36524	–			54263		–	
62345	–			46532		–	

S. Thurston.

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* First rung in 1837, at St. Andrew's, Norwich, in 4 hrs. 44 mins. Conducted by its composer. Tenor, 18 cwt.

THREE-PART PEALS.

In three-part peals the sixth can be brought to work the extent each way in 5-6, but, as these peals are of more than ordinary merit, I shall reserve to them a special classification, as well as to those peals in which the sixth is brought up in sixth's place at three course-ends in each part.

It is usual, in three-part peals, to make the second, third, and fourth, the "working" bells, and to bring the fifth and sixth bells home at the part-ends. Although a three-part peal can be made to finish at any one of the courses, even should the course terminate with a double bob H., in such cases the observation bells would be altered from the fifth and sixth without any definite reason. There is, however, a certain class of three-part peals in which a call is made at each course-end, and, as I think it preferable to separate these from the ordinary peals, I commence the examples of three-part peals with those which conform to this mode of construction.

Three-part peals with a call at each course-end.

5088

23456	M	B	W	H	23456	M	B	W	H
52364		–		2	52364		–		2
63254			2	2	53624	1	–	2	2
56342		–		2	56234	1	–	2	2
62345	2	–	1	2	35642		–		2
25346	2	–	1	2	53246	2			2

J. THORP.

5088

23456	M	B	W	H	23456	M	B	W	H
56342	1		2	2	32654		–	1	2
25463		–	2	2	54263	2	–		2
62534		–		2	65432		–		2
46325		–	2	2	32546	2	–		2
23645	1	–		2	63425	2		1	2

T. LOCKWOOD.

5088

23456	M	W	H	23456	M	W	H
52364	2	2	2	52364	2	2	2
53624		1	2	32654		2	1
56234		1	2	36524		1	2
42635	1		1	64523	1		2
24536	2		2	43526	1		2

J. PLATT.

5184

23456	M	B	W	H	23456	M	B	W	H
36452	2	–	1	2	32654	2			2
62453	1			2	36524			1	2
54263			2	2	35264	1	–	2	2
52643			1	2	64523	2	–		2
35426		–	2	2	43526	1			2

W. HARRISON.

The 5184 of Mr. Eversfield's, which follows, is the first published example of a three-part peal, with either one or two bobs at each course-end; and, as it first appeared in the Appendix to Shipway's work in 1816, I think that there is also little doubt that it was the first ever composed. Mr. Harrison's 5184 is a better example of this class of peal, as it has a double bob at each course-end, and is, in that respect, similar to the 5088's of Messrs. Thorp and Lockwood.

5184

23456	M	B	W	H	23456	M	B	W	H
52364	2		2	2	52364	2		2	2
53624			1	2	32654	1	-		1
56234	1	-	2	2	36524			1	2
42635	1			1	64523	2	-	1	2
24536		-	1	2	43526	1			2

W. Eversfield.

5184

23456	M	B	W	H	23456	M	B	W	H
32654		-	1	2	26354	2			1
65324	1	-	2	1	64352	2	-	1	2
23564			2	2	34562	1	-		1
25634	1	-	2	2	65432			2	2
24536	2			1	52436	2	-	1	2

W. Sottanstall.

5280

23456	M	W	H
36452	1		2
63254	2		2
52364		2	2
53624		1	2
25346	2	2	2

H. Johnson.

5280

23456	M	B	W	H	23456	M	B	W	H
36452	1			2	56342	1		2	2
23564	2		1	2	53462			1	2
62345		-		2	25634	2		1	2
63425	1	-	2	2	54632	2	-	1	2
25346	1		2	2	35426		-		2

W. Sottanstall.

5376

23456	M	B	W	H	23456	M	B	W	H
56342	2	-		2	62534		-	2	2
45623		-		2	36245		-		2
23564	2	-		2	53462		-	2	2
62345	2		2	2	54632	1	-	2	2
25346	2	-	1	2	35426	2		2	2

W. Sottanstall.

The following 6048 of Mr. Eversfield's appeared in Shipway's Work, in 1816. Mr. Lockwood's peals are very superior productions, as the originals contain the fourth, fifth, and sixth bells, their extent each way in 5-6.

6048

23456	M	B	W	H	23456	M	B	W	H
36452	1			2	32654	2			2
63254	2			2	56234			2	2
52364			2	2	52364			1	2
53624			1	2	36524			1	1
62534	1	-	2	1	64523	2	-	1	2
24536	1			2	43526	1			2

W. Eversfield.

*6144

23456	M	B	W	H	23456	M	B	W	H
56342	1		2	2	32654		-	1	2
32465	1		1	2	24653	1			2
25463	2	-	1	2	52436		-		2
62534		-		2	54326	1	-	2	2
65324			1	2	36245	1		1	2
23564	1	-		2	53462	2		1	2

T. Lockwood.

6144

23456	M	B	W	H	23456	M	B	W	H
24536			1	2	52364	2		2	2
32465	2		2	2	24365	1			2
25463	2	-	1	2	42563		-	1	2
53462	1			2	64235		-		2
65324		-		2	62345			1	2
23564	1	-		2	63425	1	-	2	2

T. Lockwood.

6336

23456	M	B	W	H	23456	M	B	W	H
54326	1	-		2	54326	1	-		2
26435	2	-		2	26435	2	-		2
45362	2	-	2	2	35642	2	-		2
24653		-	2	2	62453	2	-	2	2
32546		-	2	2	36524		-	2	2
23645		-	1	2	63425		-	1	2

T. Lockwood.

* First rung on October 26th, 1878, by the Yorkshire Association, at St. Lawrence's, Pudsey. Conducted by its Composer, being the first ever rung with these qualities.

Three-part peals with the sixth the extent each way in 5-6.

As of three-part peals that have 5-6 home at the part-ends, the most difficult to obtain are those that have the sixth the extent each way in 5-6, I will now place before my readers the few peals that have been obtained with these qualities. It must be remembered that the peals of Mr. T. Lockwood's, classed with those having calls at each course-end, are examples which have the sixth the extent each way in *three* parts. The following, however, are those on the ordinary plan of 5-6 home at each part-end.

The 5856, by Mr. Estcourt, is the first peal published on this plan, and appeared in the 1854 edition of Hubbard's work on Ringing. The original or reverse of the 5568 has been obtained, to my knowledge, by at least four independent composers, which points very strongly to the supposition that these qualities cannot be obtained in a less number of changes. This peal first appeared in Sottanstall's work on Ringing, in 1868, and was indeed given twice over in that book; once as the composition of Mr. W. Harrison, and at another place as the work of Mr. Day. As all Mr. Day's shorter lengths of Treble Bob Major were composed between thirty and forty years ago, I consider it most probable that Mr. Day was the first in the field with this peal, and have, therefore, attached his name to it.

5568

23456	M	B	W	H	23456	M	B	W	H
56234	2		1		54632	1		1	
32465	1		1		43265	1		2	
23564		–	1	2	35264	2	–	1	2
53624			2	1	35642		–		1
25346		–		2	53246	2			2
42356	1	–	2		34256	1	–		

T. DAY.

5856

23456	M	B	W	H	23456	M	B	W	H
46532	1		1	2	56342	2	–		2
32465		–	2		43265	1		1	
25463	2	–	1	2	34562		–	1	2
45623			2	1	54632			2	1
54326	2			2	45236	2			2
42356	1	–			34256	1	–	2	

W. ESTCOURT.

7104

23456	M	B	W	H	23456	M	B	W	H
36452	1			2	46532	2	–	2	2
65324		–			63542	1	–		
56423		–	1	2	46325		–		2
24365	2	–	2		24365			1	
42563		–	1	2	45362	1			2
52643	1	–		1	45623		–		1
45236		–		2	54326		–	1	2
34256			1		42356	1	–		

T. DAY.

Peals with the sixth three course-ends home in each part.

In the following peals it will be seen that the sixth is three course-ends at home in each part, and is therefore nine course-ends at home during the peal. In such compositions it is also possible to get the sixth one course-end in fifth's place in each part, and, when this is the case, in the reverse of such peals the sixth can then be brought up three course-ends wrong and one home in each part : the peals by Messrs. Harrison and Sottanstall have these qualities. The peal by Mr. Platt was rung at Mottram, in 1846, and is probably the first one composed with the sixth three course-ends home.

5184

23456	M	B	H
35264		–	
63542		–	2
63425		–	1
32654		–	
25346		–	
54326	1	–	
42356	1	–	

23456	B	W	H
35264	–		
45362	–	1	
25463	–	1	
56234	–		
56342	–		1
45623	–		2
52436	–		

W. Sottanstall.

5184

23456	M	B	W	H
56234		–	2	
63542		–		
63425		–		1
32654		–		
25346		–		
54326	1	–		
42356	1	–		

23456	M	B	W	H
35264		–		
35642		–		1
54326		–		
42563		–		
26354	2	–		
46253		–	1	
36452		–	1	

J. Platt.

5184

23456	M	B	W	H
35264		–		
56342		–		
52643		–	1	1
24653	1	–		
45236		–		
53246	1	–		
34256	1	–		

23456	M	B	W	H
35264		–		
45362		–	1	
25463		–	1	
56234		–		
54632		–	1	1
43652	1	–		
35426		–		

W. Harrison.

The sixth three course-ends home in each part, and also the extent home.

In the foregoing peals the sixth, although nine course-ends home, requires a bob at H. in each part, to make it work its extent home. This bob is supplied in the following compositions, and in several of them, which are the best peals obtained on this plan, the sixth is one course-end in fifth's place in each part, and at this course-end a double bob at H. is called. If the three first courses of the second of Mr. Harrison's 5088's be called in each part, as annexed, the peal will be increased to 6144 changes.

23456	M	B	W	H
52364		–		2
36524	1	–	2	1
64523	2	–	1	2

Mr. Dains's 5472 has all the 6 5 and 5 6 course-ends brought up separately. By calling the first three courses in each part, as annexed, instead of the two first in the original of the second of Mr. Harrison's 6240's, the number will be increased to 7296 changes.

23456	M	W	H
52364	2	2	2
26543	2	2	
64235	2	2	

* 5088

23456	M	B	W	H	23456	M	B	W	H
52364		–		2	35264		–		
53624	1	–	2	2	45362		–	1	
32654	1	–			42563		–	1	1
32546		–		1	26435		–		
24536	1	–			62534		–	1	2
43526	1	–			24536	2	–	1	2

W. Harrison.

† 5088

23456	M	B	W	H	23456	M	B	W	H
35264		–			35264		–		
56342		–			45362		–	1	
64523		–			42563		–	1	1
34625		–	1		26435		–		
34256		–		1	63425	1	–		
45236	1	–			32654		–		
53246	1	–			25346		–		

W. Harrison.

5088

23456	M	B	W	H	23456	M	B	W	H
62534		–	2	2	63254		–	1	
62345		–		1	64352		–	1	1
62453		–		1	65243		–	2	1
32546	2	–		1	65432		–		1
24536	1	–			36524		–		2
43526	1	–			62453	2	–		

H. Dains.

5280

23456	M	B	W	H	23456	M	B	W	H
52364		–		2	35264		–		
46325	1		1	1	45362		–	1	
64523		–	1	2	42563		–	1	1
34256	2	–		1	34625		–	2	2
45236	1	–			64235	1	–		1
53246	1	–			25346	1		1	2

H. Dains.

5376

23456	M	B	W	H	23456	M	B	W	H
36452	2	–	1	2	36452	2	–	1	2
34562	1	–	2	2	45362	1	–	2	1
34625		–		1	25463		–	1	
42356		–			35264		–	1	
25346	1	–			35642		–		1
35426	1	–		1	43526		–		2

W. Harrison.

5472

23456	M	B	W	H	23456	M	B	W	H
35426	1	–			46532	2	–	2	2
56423	2	–	1	2	34562	1	–	2	
24365	2	–	2		24365		–	1	
54632	2	–		1	25463		–	1	1
54326		–		1	25634		–		1
42356	1	–			34256		–	2	

H. Dains.

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* First rung on October 5th, 1877, by the Yorkshire Association, at St. Matthew's, Holbeck. Conducted by Chas. Jackson; being the first ever rung with these qualities.

† First rung on October 6th, 1877, by the Yorkshire Association, at All Souls', Haley Hill, Halifax. Conducted by Jasper W. Snowdon.

5664

23456	M	B	W	H	23456	M	B	W	H
65432	2	–	2	1	62534		–	2	2
36524		–		2	65324	1	–	2	2
64523	2	–	1	2	65243		–		1
42356	2	–			34256	2	–	2	1
25346	1	–			64352		–	1	
35426	1	–		1	24653		–	1	

H. Dains.

6144

23456	M	B	W	H	23456	M	B	W	H
52364		–		2	35264		–		
36524	1	–	2	1	45362		–	1	
64523	2	–	1	2	42563		–	1	1
34625		–	1		26435		–		
34256		–		1	34625	1	–		2
45236	1	–			62345	1	–	2	1
53246	1	–			25346	2	–	1	2

W. Harrison.

6240

23456	M	B	W	H	23456	M	B	W	H
32654		–	1	2	36452	2	–	1	2
32546		–		1	45362	1	–	2	1
26543	2	–	1	2	64523		–		2
25463	1	–	2	2	42563	1	–		
25634		–		1	32465		–	1	
53246		–			32654		–		1
34256	1	–			53246		–		2

W. Harrison.

6240

23456	M	B	W	H	23456	M	B	W	H
52364	2		2	2	35264	2		2	
63425	2	–	2		56342		–		
53246	2	–		1	56423		–		1
45236			1		25463			1	
62534	1			1	34562	1			1
23645		–			62345		–	2	
34256		–			35426	2	–	2	2

W. Harrison.

6336

23456	M	B	W	H	23456	M	B	W	H
35264		–			35264		–		
43652		–	2	2	45362		–	1	
43526		–		1	24653		–	2	2
56234	2	–	2	2	56423	1	–		2
65432		–	1	2	32465	2	–	2	1
53246	2	–			63254		–		2
34256	1	–			35426	2	–		

J. Lockwood.

6432

23456	M	B	W	H	23456	M	B	W	H
23564	2		2	1	52364		–		2
53624			2	1	45623	2		1	2
53246		–		1	24653			1	
45236			1		36452	1			1
56234	1			2	36524		–		1
34625	1		2	2	34625	2			1
42356		–			42356	2		2	

W. Harrison.

6432

23456	M	B	W	H	23456	M	B	W	H
52364	2		2	2	35264	2		2	
52643	2		2	1	35642		–		1
52436		–		1	36452			1	2
35426			1		53462			1	
56423	1			2	24365	1			1
34625	1			1	24653		–		1
42356		–			52436	2		2	2

W. Harrison.

ORDINARY THREE-PART PEALS.

In the arrangement of the ordinary class of three-part peals, I shall, as in the case of those in five parts, be guided by the number of courses in which each part is contained; these numbers range from five to ten.

Peals with five courses in each part.

Some of the three-part peals, in five courses, contain either the fifth or sixth bell one way in 5-6 at each course-end; these I shall place first amongst those of equal numbers of changes. Following these peals are such as have only one course-end in each part, in which one of these bells does not occupy a position one way in 5-6; after these peals come the remaining ones, of the same number of changes, arranged according to the number of bobs at H. they contain.

The following peals, by Messrs. Day, Haley, and Lang, have each either the fifth or sixth bell in 5-6 at each course-end, and being contained in fifteen courses only must necessarily be good musical peals. The last two peals will not produce different variations when reversed, they will also be seen to have the same course-ends, as their only difference is that the alternative calling is used in several of the courses. This will be found to be the case with the course-ends of certain of the three-part peals.

5088

23456	M	B	W	H
36452	2	–	1	2
34562			1	2
63425	2		2	2
54326	1			1
42356			2	

23456	M	B	W	H
26354	2			1
23564			1	2
62345	2		2	2
25346	1			2
42356	1	–	2	

T. DAY.

5088

23456	M	B	W	H
36452	2	–	1	2
23564		–	2	2
62345		–		2
45236	2	–		2
34256	1	–	2	

H. W. HALEY.

5088

23456	M	B	W	H
36452	1			2
23564		–	2	2
62345	2		2	2
45236	2	–		2
34256			1	

O. LANG.

A variation on Mr. Barker's 5088, which follows, may be made by calling the first course, 2 M., 2 W., 2 H., and the second, 1 M., 2 W., 1 H., when the second course-end of this peal (4 2 6 3 5) will be brought up. The last of Mr. Lockwood's 5088's may be lengthened to 5472, by calling the fourth course 1 W., and the fifth 1 M., 2 W., in each part.

5088

23456	M	W	H	23456	M	W	H
52364	2	2	2	36452	1		2
34625	1	1	2	46532		2	1
52643	1	1	1	52364	1	1	2
25346	2		2	34625	1	1	2
42356		1		42356	2	2	

W. Sottanstall.

5088

23456	M	B	W	H	23456	M	B	W	H
65432	1		1	1	36452	1			2
34562			2	2	23564		–	2	2
63425	2		2	2	62345	2		2	2
25345	2	–		2	65243	2			1
42356			1		42356	1	1		

O. Lang.

5088

23456	M	B	W	H	23456	M	B	W	H
52364	2		2	2	25634	2		1	1
63425	2	–	2		26354			1	2
35426	1			2	52364			1	
64523	1			1	34625	2	–	2	2
42356	1		2		42356	2		2	

J. Reeves.

5088

23456	M	B	W	H	23456	M	B	W	H
52364	2		2	2	23564		–		1
65243	2		2	2	25634			1	2
56342	2			2	36524			2	2
23645	1			1	23645	2		2	2
34256		–			34256	2		2	

J. Buckley.

5088

23456	M	B	W	H	23456	M	B	W	H
52364	2		2	2	25634	2		1	1
53624	1	–	2	2	26354			1	2
25346		–		2	52643		–		2
63542	1			1	23645	2	–	1	2
34256	1		2		34256	2		2	

T. Lockwood.

*5088

23456	M	B	W	H	23456	M	B	W	H
52364		–		2	32654		–	1	2
46325	2	–	2	1	36524	1	–	2	2
65324	2	–	1	2	52364	1	–	2	1
54326	2	–	1	2	34625	2	–	2	2
42356	1	–			42356		–		

T. Lockwood.

5088

23456	M	B	W	H	23456	M	B	W	H
25634	2		1	1	52364		–		2
36524			2	2	46325	2	–	2	1
52364	1	–	2	1	65324	2	–	1	2
34625	2	–	2	2	64523	2			1
42356		–			42356	1		2	

T. Lockwood.

†5088

23456	M	W	H	23456	M	W	H
23564	2	2	1	26354	2		1
42635	2	1	2	36524		2	1
53624	1	1	1	54263	1	1	2
54326	2		1	34625	1	2	1
42356		2		42356	2	2	

J. Barker.

5088

23456	M	B	W	H	23456	M	B	W	H
52364		–		2	23564	2		2	1
65243	2		2	2	25634			1	2
56342	2			2	36524			2	2
23645	1			1	23645	2		2	2
34256	2		2		34256		–		

W. Goodall.

5088

23456	M	B	W	H	23456	M	B	W	H
46532	2	–	2	2	32654		–	1	2
45362	1	–	2	2	62534	1	–		1
35642			2	1	26435	2			2
53246		–	1	2	65432	2	–	1	2
34256	1	–			34256	2	–	2	

H. Dains.

* First rung on August 25th, 1877, at Pudsey, by the Yorkshire Association. Conducted by its Composer.

† Rung at Liversedge, on July 27th, 1850. Conducted by its Composer.

5088

23456	M	B	W	H	23456	M	B	W	H
52364	2		2	2	25634	2		1	1
63425	1		1		26354	1	–	2	2
35426	1			2	52364			1	
64523	2	–	1	1	34625	1		1	2
42356	1		2		42356	2		2	

T. LOCKWOOD.

5088

23456	M	B	W	H	23456	M	B	W	H
54632	2	–	2		56234	2		1	
45236	2			2	64235	1			2
34562	2		2	2	36452	2		2	2
63542			1		65432			2	
34256	1		2		34256	2	–	2	

T. LOCKWOOD.

The two first of the following peals of 5184 changes have each the fifth or sixth bell one way in 5-6 at each course-end, and it will be observed only differ in the way of calling the first and last courses, and have, moreover, exactly the same course-ends. In Mr. Johnson's peal, if the first course be called 2 M. 1 H., and the last course in the second and third parts be called 1 W., the number will be reduced to 5056. Following these peals come those in five courses, which have the fifth or sixth away from 5-6 in one course only, and then the ordinary three-part peals, arranged as previously explained, according to the number of bobs H. in each part. If the third courses in the second and third parts of Mr. Lockwood's peal be called 1 M. 1 W., the number will then be 5056 changes.

5184

23456	M	B	W	H	23456	M	B	W	H
36452	1			2	36452	2	–	1	2
34562			1	2	23564		–	2	2
63425	2		2	2	62345	2		2	2
25346	2	–		2	25346	1			2
42356	1	–	2		42356			1	

H. JOHNSON.

5184

23456	M	B	W	H	23456	M	B	W	H
36452	2	–	1	2	36452	1			2
34562			1	2	23564		–	2	2
63425	2		2	2	62345	2		2	2
25346	2	–		2	25346	1			2
42356			1		42356	1	–	2	

W. SOTTANSTALL.

5184

23456	M	B	W	H	23456	M	B	W	H
56342	2	–		2	36452	2	–	1	2
53462	1	–	2	2	34562			1	2
62345	2	–		2	23645		–	2	2
25346	1			2	35642	2	–	1	2
42356	1	–	2		42356		–	2	

W. ROYLE.

5184

23456	M	B	W	H	23456	M	B	W	H
52364	2		2	2	25634	2		1	1
64235	2	–		2	26354			1	2
35426	2	–		2	42563		–	2	2
64523	1			1	34625		–	2	1
42356	1		2		42356	2		2	

H. W. HALEY.

5184

23456	M	B	W	H	23456	M	B	W	H
52364	2		2	2	36452	1			2
36524	1	–	2	1	23564		–	2	2
63425	2			2	53624			2	1
25346	2	–		2	34625	2	–	1	2
42356			1		42356	2		2	

H. DAINS.

5184

23456	M	W	H	23456	M	W	H
23564	2	2	1	25634	2	1	1
62345	2	2	2	26354		1	2
25346	1		2	23564		1	2
63542	1		1	23645	2	2	1
34256	1	2		34256	2	2	

W. SOTTANSTALL.

5184

23456	M	B	W	H	23456	M	B	W	H
56342	2	–		2	36452	2	–	1	2
53462	1	–	2	2	53462			1	
64235	2	–	2		42635	2	–	2	2
45236	1			2	25634	2	–	1	2
34256	1	–	2		34256		–	2	

T. Lockwood.

5184

23456	M	B	W	H	23456	M	B	W	H
52364	2		2	2	36452	2	–	1	2
56423	2		1	1	53462			1	
62345	1		2		56234	2		1	1
25346	1			2	34625	1		2	2
42356	1	–	2		42356	2		2	

O. Lang.

If the first course of the 5184, by Mr. Lockwood, which follows, be called 1 M. 2 W. 2 H., it goes 5280.

5184

23456	M	B	W	H	23456	M	B	W	H
56342	2	–		2	32654		–	1	2
53462			1	2	36524	1	–	2	2
65324	2		2	2	23645	2		2	2
54326	2	–	1	2	35642	1			2
42356	1	–			42356		–	2	

T. Lockwood.

5184

23456	M	B	W	H	23456	M	B	W	H
52364	2		2	2	26354	2			1
45623	2		1	2	53624			2	2
53624	1			2	56234			1	2
54326	2			1	34625	1		2	2
42356			2		42356	2		2	

O. Lang.

5184

23456	M	B	W	H	23456	M	B	W	H
36452	1			2	56342	1		2	2
54632			2	2	43265	2	–	2	
43265	1		2		54632	2		1	2
25634	2	–	2	2	45236	2			2
34256	2		1		34256			1	

J. Wilde.

5184

23456	M	B	W	H	23456	M	B	W	H
56342	1		2	2	32654	2			2
56423	2		2	1	34256	2			1
46253			2	1	36452	2			1
52643			2	2	53624	2		2	2
24653			2		24536	2		1	

W. Harrison.

Call 2 H. instead of 2 W. in the third course of Mr. Sottanstall's 5280, and you will have another peal of the same length.

5280

23456	M	B	W	H	23456	M	B	W	H
25634	2		1	1	36452	1			2
34562	1		2	2	23564		–	2	2
63425	2		2	2	62345	2		2	2
25346	2	–		2	64523	2		1	1
42356			1		42356	1		2	

T. Robinson, Y. A.

5280

23456	M	B	W	H	23456	M	B	W	H
52364	2		2	2	36452	2	–	1	2
56423	2		1	1	23564		–	2	2
63425	1			2	56234			1	1
25346	2	–		2	34625	1		2	2
42356	1	–	2		42356	2		2	

W. Sottanstall.

5280

23456	M	W	H	23456	M	W	H
52364	2	2	2	25634	2	1	1
52643	2	2	1	26354		1	2
25346	2		2	36524		2	1
63542	1		1	23645	2	2	2
34256	1	2		34256	2	2	

T. Day.

5280

23456	M	W	H	23456	M	W	H
56342	1	2	2	23564	2	2	1
36452		2	1	62345	2	2	2
34562		1	2	53246	1		1
34625	2	2	1	35642	2		2
42356	2	2		42356	2	1	

W. D. Crofts.

5280

23456	M	B	W	H	23456	M	B	W	H
52364	2		2	2	36452	2	–	1	2
26543	2		2		53462			1	
64235	2		2		36524	2		2	
45236	1			2	23645	2		2	2
34256	1	–	2		34256	2		2	

W. Sottanstall.

5280

23456	M	B	W	H	23456	M	B	W	H
35264	2		2		35426			2	
56342	2		2		52364	2		2	
64523	2		2		26543	2		2	
42635	2		2		64235	2		2	
24536	2			2	36452	2		2	2

W. Estcourt.

If the fourth course of the fourth 5376 be called 2 M. 2 W. 1 H., another peal of the same length will be had, the first part-end being 42356.

5376

23456	M	B	W	H	23456	M	B	W	H
36452	2	–	1	2	36452	2	–	1	2
34562			1	2	23564		–	2	2
63425	2		2	2	62345	2		2	2
25346	2	–		2	25346	1			2
42356	1	–	2		42356	1	–	2	

T. Day.

5376

23456	M	B	W	H	23456	M	B	W	H
65432	2	–	2	1	56342	2	–		2
34562			2	2	53462	1	–	2	2
23645	2		1	2	62345	1		2	2
35642	2	–	1	2	65243	2			1
42356		–	2		42356	2	–	2	

J. Wilde.

5376

23456	M	B	W	H	23456	M	B	W	H
52364	2		2	2	36452	2	–	1	2
26543	2		2		23564		–	2	2
62345	2			2	36524			2	
45236	2	–		2	23645	2		2	2
34256	1	–	2		34256	2		2	

J. Reeves.

5376

23456	M	B	W	H	23456	M	B	W	H
54632	1		1		52364	2		2	2
45236	2			2	64235	1		2	2
34562	2		2	2	36452	2		2	2
23645	2		1	2	65432			2	
34256	2		2		34256	1		1	

W. Sottanstall.

Peals with six courses in each part.

5088

56	M	B	W	H	23456	M	B	W	H
54		–	1	2	35264		–		
24			1	2	63542		–		2
64			1	2	46325		–		2
42		–		2	65324	1			2
25		–			54326	1			2
56		–			42356	1	–		

W. Harrison.

5088

23456	M	B	W	H	23456	M	B	W	H
35642	2	–			56234		–	2	
35426		–		1	65432		–	1	2
52364		–			52436	2	–	1	2
65243		–		2	23564		–		
62453	1	–	2	2	23645		–		1
25463	1	–			34256		–		

T. Lockwood.

5088

56	M	B	W	H	23456	M	B	W	H
34		–	2	2	35264		–		
64			2	2	63542		–		2
42		–			36245	2			2
23		–			·45623	2	–		2
35		–			52643	1	–		
36		–	1	2	24536		–		

W. Sottanstall.

5184

23456	M	B	W	H	23456	M	B	W	H
36452	1			2	36452	1			2
34562			1	2	53462			1	
46532	1	–			32465	1			2
63425		–			65324		–	2	
25346	2	–		2	52643		–		
42356			1		25346		–	1	2

T. Lockwood.

5184

56	M	B	W	H	23456	M	B	W	H
52	1			2	56342	2	–		2
64		–	2	2	45362			1	
24	1	–			52364	1			2
45		–			65324			1	
46	1			2	52643		–		
56			1		25346		–	1	2

T. Lockwood.

5184

23456	M	B	W	H	23456	M	B	W	H
35642	2	–			52364		–		2
53246		–	1	2	64523	2		1	
45362		–		2	26435		–		2
56423		–			32654		–		2
23645	1		2	2	25634	1	–		
34256		–			34256		–	2	

W. Sottanstall.

5184

56	M	B	W	H	23456	M	B	W	H
64		–			32654		–	1	2
42		–			36524			1	2
65	2	–	2		24365		–	2	
24	2	–		2	63542	2	–	2	
26	1			2	34625		–		
56	1	–			42356		–		

W. Harrison.

5184

23456	M	B	W	H	23456	M	B	W	H
23564	2		2	1	35264	2		2	
36452	2	–			54263	2	–	1	2
65324		–			46532		–		
52643		–			63425		–		
45236		–		2	32654		–		
34256	1	–	2		35426		–	2	1

T. Lockwood.

5280

23456	M	B	W	H	23456	M	B	W	H
23564	2		2	1	36452	2	–	1	2
43265		–	1		53624		–		2
36452		–			32546		–		
53624		–		2	24365		–		
25346		–		2	34625	1	–		1
42356	1	–	2		42356	2		2	

W. SOTTANSTALL.

5280

23456	M	B	W	H	23456	M	B	W	H
35264		–			32654		–	1	2
56342		–			36524	1	–	2	2
43265	1		1		24365	2		1	
65324	1		2	2	63542	1		1	
54326	2	–	1	2	34625		–		
42356	1	–			42356		–		

W. HARRISON.

5280

23456	M	B	W	H	23456	M	B	W	H
23564	2		2	1	43526	1	–		1
43265		–	1		32465	2		2	
65432		–	2		25463	2	–	1	2
53624		–			56234		–		
25346		–		2	63542		–		
42356	1	–	2		34256	2	–		

T. LOCKWOOD.

5376

23456	M	B	W	H	23456	M	B	W	H
56342	1		2	2	36452	1			2
43265	2	–	2		36524		–		1
53462		–	1		62345		–		
53624		–		1	24365	1	–		
25346		–		2	35642	2	–	2	2
42356			1		42356	2		1	

W. HARRISON.

5376

23456	M	B	W	H	23456	M	B	W	H
52364		–		2	32654		–	1	2
46325	2	–	2	1	25634	1	–		
24653		–		2	52436		–	1	2
45623	1	–			52364		–		1
54326		–	1	2	34625	2	–	2	2
42356	1	–			42356		–		

L. CAWOOD.

5376

23456	M	B	W	H
36452	1			2
34562			1	2
46532	1	–		
64235		–	1	2
45236	1			2
34256			1	

T. ROBINSON, Y. A.

*5376

23456	M	W	H
54632	1	1	
23645	1	1	1
46532	1	1	
23564	1	1	1
65432	1	1	
34256	1	1	

W. SOTTANSTALL.

6048

23456	M	B	W	H	23456	M	B	W	H
52364	2		2	2	52364		–		2
52643	2		2	1	45623	2		1	2
45236		–		2	46253			1	2
56234	1			2	46532		–		1
34625	1		2	2	34625	2		2	2
42356		–			42356	2		2	

H. JOHNSON.

* Rung at St. Peter's, Sowerby, on January 23rd, 1839 Conducted by J. G. Holroyd.

6048

23456	M	W	H	23456	M	W	H
32654	2		2	56342	1	2	2
56234		2	2	54263	2	1	1
52364		1	2	43265	1		2
36524		1	1	35264	1		2
24653	1	2	2	53462	2		2
53246	2	1		36452		2	

S. Austin.

6048

23456	M	B	W	H	23456	M	B	W	H
36452	1			2	25634	2		1	1
23564		–	2	2	26354			1	2
62345	2		2	2	23564			1	2
25346	1			2	62345	2		2	2
63542	1			1	45236	2	–		2
34256	1		2		34256			1	

W. Harrison.

6048

23456	M	B	W	H	23456	M	B	W	H
36452	1			2	36452	2	–	1	2
46532			2	1	34562			1	2
52364	1		1	2	23645	2		1	2
64235	1		2	2	54632	1		1	1
45236	1			2	45236	2			2
34256	1	–	2		34256			1	

J. Lockwood.

6048

23456	M	B	W	H	23456	M	B	W	H
52364	2		2	2	23564	2		2	1
63425	1		1		53624			2	1
35426	1			2	26354			2	2
36524	2			1	52364			1	
34625	2			1	34625	1		1	2
42356	2		2		42356	2		2	

W. Sottanstall.

If the fifth course of Mr. Thorp's 6144 be called, 2 M., 1 B., 2 H. in each part, it will run to 6240 changes.

6144

23456	M	B	W	H	23456	M	B	W	H
52364	2		2	2	52364		–		2
45623	2		1	2	65243	2		2	2
24536		–		2	62453			1	2
46532	1			2	56234		–		2
34625	2		2	2	34625	1		2	2
42356		–			42356	2		2	

W. Harrison.

6144

23456	M	B	W	H	23456	M	B	W	H
62534	2		1	2	36452	2	–	1	2
65324	1	–	2	2	34562			1	2
23564			2	2	63425		–		2
62345		–		2	36524	2			2
25346	1			2	64523	2	–	1	2
42356	1	–	2		42356	1		2	

J. Thorp.

6144

23456	M	B	W	H	23456	M	B	W	H
56342	1		2	2	36452	1			2
65243	2			2	34562			1	2
42563			2	2	63425	2		2	2
64235	2		2	2	36524	2			2
45236	1			2	25634			2	2
34256			1		34256	2		1	

H. Johnson.

6240

23456	M	W	H	23456	M	W	H
46532	1	1	2	36452	1		2
35642		2	2	34562		1	2
42563	1	2	2	63425	2	2	2
64235	2	2	2	56234	2	1	2
45236	1		2	65432	2		2
34256		1		34256	1	1	

W. Harrison.

6240

23456	M	B	W	H	23456	M	B	W	H
52364	2		2	2	36452	2	–	1	2
53624	1	–	2	2	34562			1	2
56234			1	2	35642			1	2
64235	1			2	52643	1			2
45236	1			2	23645	2	–	1	2
34256	1	–	2		34256	2		2	

T. Day.

6240

23456	M	B	W	H	23456	M	B	W	H
26354	2			1	52364	2		2	2
53624			2	2	45623	2		1	2
35426	2			2	46253			1	2
56423	1			2	52643			2	2
23645	1		2	2	53246	2			1
34256	2		2		34256			2	

S. Marsh.

6240

23456	M	B	W	H	23456	M	B	W	H
46532	2	–	2	2	56234	2		1	
64235	2			2	64235	1			2
45236	1			2	36452	2		2	2
34562	2		2	2	34562			1	2
63542			1		65432			2	2
34256	1		2		34256	2	–	2	

W. Harrison.

6336

23456	M	B	W	H	23456	M	B	W	H
52364	2		2	2	36452	2	–	1	2
65243	2		2	2	34562			1	2
56342		–	1	2	35642			1	2
62345	1			2	46532	1	–		2
25346	1			2	34625	2		2	2
42356	1	–	2		42356	2		2	

H. Johnson.

6336

23456	M	B	W	H	23456	M	B	W	H
52364	2		2	2	23564	2		2	1
52643	2		2	1	25634			1	2
25346	2			2	26354			1	2
56342	1			2	36524			2	1
23645	1			1	23645	2		2	2
34256	2		2		34256	2		2	

J. Reeves.

6432

23456	M	B	W	H	23456	M	B	W	H
52364	2		2	2	36452	2	–	1	2
65243	2		2	2	23564		–	2	2
56342		–	1	2	25634			1	2
62345	1			2	36524	1	–		2
45236	2	–		2	23645	2		2	2
34256	1	–	2		34256	2		2	

W. Harrison.

6528

23456	M	B	W	H	23456	M	B	W	H
52364	2		2	2	23564	2		2	1
52643	2		2	1	25634			1	2
25346	2			2	26354	1	–	2	2
56342	2	–	1	2	36524			2	1
23645	1			1	23645	2		2	2
34256	2		2		34256	2		2	

J. Reeves.

6816

23456	M	B	W	H	23456	M	B	W	H
23564	2		2	1	52364	2		2	2
54632	2	–	2	2	45623	2		1	2
45236	2			2	46253	1	–	2	2
56234	2	–	1	2	52643			2	2
34625	1		2	2	34625	2	–	2	1
42356	2		2		42356	2		2	

J. Reeves.

Peals with seven courses in each part.

5088

23456	M	B	W	H	23456	M	B	W	H
35426	1	–			35264		–		
52364		–			56342		–		
26543		–			64352	1	–		
36245		–	1		45623		–		
64352		–			52436		–		
45623		–			25634		–	1	2
24536		–		2	53246		–		

J. THORP.

5088

23456	M	B	W	H	23456	M	B	W	H
32654		–	1	2	35264		–		
25346		–			56342		–		
25463		–		1	64523		–		
56234		–			64235		–		1
63542		–			43652		–		
34625		–			54326		–		2
42356		–			42356	1	–		

J. REEVES.

5088

23456	M	B	W	H	23456	M	B	W	H
25634		–	2	1	35264		–		
53246		–			35642		–		1
34562		–			54263	2	–		
46532	1	–			46532		–		
63425		–			63425		–		
32654		–			32654		–		
25346		–			42356		–	1	

W. SOTTANSTALL.

*5088

23456	M	B	W	H	23456	M	B	W	H
35642	2	–			35264		–		
54326		–			56342		–		
25463		–		2	64523		–		
56234		–			26435		–		2
63542		–			63254		–		
34625		–			35642		–		
42356		–			42356		–	2	

W. HUDSON.

†5088

23456	B	W	23456	M	B
35264	–		35642	2	–
56342	–		54326		–
42563	–	2	42563		–
26435	–		26435		–
63254	–		63542	2	–
35642	–		34625		–
42356	–	2	42356		–

J. NICHOLL.

5088

23456	B	H
35264	–	
63542	–	2
34625	–	
42356	–	
25463	–	
62534	–	2
23645	–	

H. HUBBARD.

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* First rung on May 13th, 1816, at Lane End, Staffs. Conducted by its Composer.

† Rung at St. Peter's, Sowerby, on December 26th, 1858. Conducted by its Composer.

5280

23456	M	B	W	H	23456	M	B	W	H
35264		-			35642	2	-		
56342		-			54326		-		
64523		-			25463		-		2
46325	2			2	56423			2	
62453		-			62534		-		
25634		-			23645		-		
34256		-	2		34256		-		

W. SOTTANSTALL.

5376

23456	M	B	W	H	23456	M	B	W	H
35642	2	-			35264		-		
53246		-	1	2	56342		-		
45362		-		2	64523		-		
56423		-			26435		-		2
62534		-			32654		-		2
23645		-			25634	1	-		
34256		-			34256		-	2	

H. JOHNSON.

5376

23456	M	B	W	H	23456	M	B	W	H
35264		-			35642	2	-		
56342		-			54326		-		
54263		-	2	1	42563		-		
46325	2	-			46325		-	2	1
62453		-			62534	2	-		
25634		-			23645		-		
34256		-	2		34256		-		

W. HARRISON.

5568

23456	M	B	W	H	23456	M	B	W	H
23564		-		1	35264		-		
26435		-	2	1	56342		-		
63254		-			65243		-	1	2
46532		-	2	2	54326	2	-		
63542	1	-			54263		-		1
34625		-			34625	2	-		1
42356		-			42356		-		

W. HARRISON.

If the first course of the foregoing peal of 5568 changes, in seven courses, be called 1 B. 1 W., it brings up the third course-end and reduces the number to 5024. If the fourth course of the following 6048 be called 1 M. 1 B. 2 W., and the fifth 2 M. 1 W., another 6048 will be had. (T. Lockwood.)

6048

23456	M	B	W	H	23456	M	B	W	H
35264		-			32654		-	1	2
63542		-		2	53624			1	
46325		-		2	32465	1		2	
24365	1	-	2		25463	2	-	1	2
65243	2		1		62534		-		2
53246	1			2	23645		-		
34256	1	-			34256		-		

W. HARRISON.

6144

23456	M	B	W	H	23456	M	B	W	H
52364		-		2	32654		-	1	2
26435	2	-			56234	1	-		2
63254		-			65432		-	1	2
46532		-	2	2	53246	2	-		
35642	1	-		2	34562		-		
53246		-	1	2	23645		-	2	2
34256	1	-			34256		-		

T. DAY.

6144

23456	M	B	W	H	23456	M	B	W	H
52364		–		2	32654		–	1	2
26435	2	–			36524	1	–	2	2
63254		–			25634	1	–		2
56342		–		2	53246		–		
65243		–	1	2	34562		–		
53246	2	–	1	2	23645		–	2	2
34256	1	–			34256		–		

T. Lockwood.

6336

23456	M	B	W	H	23456	M	B	W	H
35264		–			52364		–		2
63542		–		2	46325	2	–	2	1
65432			1	2	24653		–		2
52436	2	–	1	2	26543	1	–	2	2
52364		–		1	63542	1			2
34625	2	–	2	2	34625		–		
42356		–			42356		–		

W. Harrison.

A variation of the following 7008, by Mr, Sottanstall, may be had by calling 2 W. instead of the 2 H. in the third course.

7008

23456	M	B	W	H	23456	M	B	W	H
36452	2	–	1	2	62534	2		1	2
34562			1	2	53624	1	–	2	1
63425		–		2	26354			2	2
35426	1			2	23564			1	2
36524	2			1	62345		–		2
64523	2	–	1	2	25346	1			2
42356	1		2		42356	1	–	2	

W. Sottanstall.

7008

23456	M	B	W	H	23456	M	B	W	H
52364	2		2	2	23564	2		2	1
26354	1	–			25634			1	2
52643		–		2	26354	1	–	2	2
25346	2			2	53624			2	2
56342	2	–	1	2	32546		–		
23645	1			1	23645		–	1	2
34256	2		2		34256	2		2	

J. Reeves.

7008

23456	M	B	W	H	23456	M	B	W	H
36452	2	–	1	2	23564	2		2	1
34562			1	2	53624			2	1
62345	2		1		26354			2	2
25346	1			2	52364			1	
26543	2			1	64235	1		2	2
23645	2			1	45236	1			2
34256	2		2		34256	1	–	2	

W. Harrison.

7104

23456	M	B	W	H	23456	M	B	W	H
62534	2		1	2	36452	2	–	1	2
65324	1	–	2	2	34562			1	2
46253		–	2	2	63425		–		2
42563			1	2	35426	1			2
64235		–		2	26543	2	–		2
45236	1			2	63542	2	–	1	2
34256	1	–	2		34256	1		2	

H. Johnson.

7104

23456	M	B	W	H	23456	M	B	W	H
26354	2			1	52364	2		2	2
23564			1	2	45623	2		1	2
53624			2	1	46253			1	2
35426	2			2	26543			2	1
56423	1			2	62345	2			2
23645	1		2	2	53246	1			1
34256	2		2		34256			2	

S. Marsh.

7104

23456	M	B	W	H	23456	M	B	W	H
56342	2	–		2	36452	2	–	1	2
23645	1			1	53462			1	
65432	2	–	2	2	62345	1		2	2
34562			2	2	26543	2			2
62345	2		1		34562	2	–	2	1
25346	1			2	35642			1	2
42356	1	–	2		42356		–	2	

W. Harrison.

7296

23456	M	B	W	H	23456	M	B	W	H
23564	2		2	1	52364	2		2	2
36452	2	–			45623	2		1	2
53624		–		2	46253	1	–	2	2
35426	2			2	52643			2	2
56423	2	–	1	2	24536		–		
23645	1		2	2	23645		–	2	1
34256	2		2		34256	2		2	

J. Reeves.

*7680

23456	M	B	W	H	23456	M	B	W	H
36452	2	–	1	2	62534	2		1	2
23564		–	2	2	65324	1	–	2	2
62345	2		2	2	46253		–	2	2
45236	2	–		2	34562		–	2	2
36524	2	–		2	63425	2		2	2
64523	2	–	1	2	25346	2	–		2
42356	1		2		42356	1	–	2	

W. Sottanstall.

Peals with eight courses in each part.

5568

23456	B	W	H	23456	M	B	H
23564	–		1	35264		–	
36245	–			56342		–	
64352	–			64352	1	–	.
45623	–			45623		–	
52436	–			52436		–	
62534	–	1		23564		–	
23645	–			23645		–	1
34256	–			34256		–	

W. Harrison.

6144

23456	M	B	W	H	23456	M	B	W	H
63254		–	1		35264		–		
65432		–	2	1	56342		–		
53246	2	–			64523		–		
45362		–		2	26435		–		2
56423		–			63254		–		
62534		–			65432		–	2	1
23645		–			53246	2	–		
34256		–			34256	1	–		

J. Reeves.

6144

23456	M	B	W	H	23456	M	B	W	H
35264		–			32654		–	1	2
56342		–			25346		–		
54263		–	2	1	54263		–		
26543			1	1	54632		–		1
64235		–			26435	1			1
43652		–			63542	2	–		
54326		–		2	34625		–		
42356	1	–			42356		–		

T. Lockwood.

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* First rung at St. Peter's, Huddersfield, on Easter Monday, 1830, in 4 hrs. 29 mins. Conducted by Samuel Goodier. Tenor, 18 cwt.

6144

23456	M	B	W	H	23456	M	B	W	H
23564		–		1	35264		–		
26435		–	2	1	56342		–		
63254		–			43652	1	–		2
35642		–			35642	1	–		
53246		–	1	2	54326		–		
63542		–	1		54263		–		1
34625		–			34625	2	–		1
42356		–			42356		–		

W. HARRISON.

7008

23456	M	B	W	H	23456	M	B	W	H
35264		–			32654		–	1	2
56342		–			65324	1	–	2	1
54263		–	2	1	54326	2	–	1	2
46325	2	–			42563		–		
24653		–		2	46325		–	2	1
65243	1	–	2	1	62534	2	–		
53246	2	–	1	2	23645		–		
34256	1	–			34256		–		

T. LOCKWOOD.

Peals with nine courses in each part.

8064

23456	M	B	W	H	23456	M	B	W	H
36452	2	–	1	2	26354	2			1
36524		–		1	65243		–		
63425	2			2	56342		–	1	2
32465	1	–			62345	1			2
23564		–	1	2	24365	1	–		
25634			1	2	42563		–	1	2
53624	1	–			52643			2	1
53246		–		1	45236		–		2
34256			2		34256	1	–	2	

J. THORP.

Peals with ten courses in each part.

Ten is the greatest number of courses that a three-part peal can contain in each part, it will then contain the sixty 78's before. Reeves's peal of 8160 may be varied by calling the fourth and fifth courses as annexed.

53246	M	B	W	H
34562		–		
36245		–	2	1

Both Reeves's 8448 and Mr. Thorp's 8544 have, at one time, each represented the extent with the tenors together.

5280

23456	M	B	W	H	23456	M	B	W	H
23564	2		2	1	36452	2	–	1	2
43265		–	1		53624		–		2
36452		–			32546		–		
53624		–		2	24365		–		
25346		–		2	34625	1	–		1
42356	1	–	2		42356	2		2	

W. SOTTANSTALL.

5280

23456	M	B	W	H	23456	M	B	W	H
35264		–			32654		–	1	2
56342		–			36524	1	–	2	2
43265	1		1		24365	2		1	
65324	1		2	2	63542	1		1	
54326	2	–	1	2	34625		–		
42356	1	–			42356		–		

W. HARRISON.

5280

23456	M	B	W	H	23456	M	B	W	H
23564	2		2	1	43526	1	–		1
43265		–	1		32465	2		2	
65432		–	2		25463	2	–	1	2
53624		–			56234		–		
25346		–		2	63542		–		
42356	1	–	2		34256	2	–		

T. LOCKWOOD.

5376

23456	M	B	W	H	23456	M	B	W	H
56342	1		2	2	36452	1			2
43265	2	–	2		36524		–		1
53462		–	1		62345		–		
53624		–		1	24365	1	–		
25346		–		2	35642	2	–	2	2
42356			1		42356	2		1	

W. HARRISON.

5376

23456	M	B	W	H	23456	M	B	W	H
52364		–		2	32654		–	1	2
46325	2	–	2	1	25634	1	–		
24653		–		2	52436		–	1	2
45623	1	–			52364		–		1
54326		–	1	2	34625	2	–	2	2
42356	1	–			42356		–		

L. CAWOOD.

5376

23456	M	B	W	H
36452	1			2
34562			1	2
46532	1	–		
64235		–	1	2
45236	1			2
34256			1	

T. ROBINSON, Y. A.

*5376

23456	M	W	H
54632	1	1	
23645	1	1	1
46532	1	1	
23564	1	1	1
65432	1	1	
34256	1	1	

W. SOTTANSTALL.

6048

23456	M	B	W	H	23456	M	B	W	H
52364	2		2	2	52364		–		2
52643	2		2	1	45623	2		1	2
45236		–		2	46253			1	2
56234	1			2	46532		–		1
34625	1		2	2	34625	2		2	2
42356		–			42356	2		2	

H. JOHNSON.

* Rung at St. Peter's, Sowerby, on January 23rd, 1839 Conducted by J. G. Holroyd.

6048

23456	M	W	H	23456	M	W	H
32654	2		2	56342	1	2	2
56234		2	2	54263	2	1	1
52364		1	2	43265	1		2
36524		1	1	35264	1		2
24653	1	2	2	53462	2		2
53246	2	1		36452		2	

S. Austin.

6048

23456	M	B	W	H	23456	M	B	W	H
36452	1			2	25634	2		1	1
23564		–	2	2	26354			1	2
62345	2		2	2	23564			1	2
25346	1			2	62345	2		2	2
63542	1			1	45236	2	–		2
34256	1		2		34256			1	

W. Harrison.

6048

23456	M	B	W	H	23456	M	B	W	H
36452	1			2	36452	2	–	1	2
46532			2	1	34562			1	2
52364	1		1	2	23645	2		1	2
64235	1		2	2	54632	1		1	1
45236	1			2	45236	2			2
34256	1	–	2		34256			1	

J. Lockwood.

6048

23456	M	B	W	H	23456	M	B	W	H
52364	2		2	2	23564	2		2	1
63425	1		1		53624			2	1
35426	1			2	26354			2	2
36524	2			1	52364			1	
34625	2			1	34625	1		1	2
42356	2		2		42356	2		2	

W. Sottanstall.

If the fifth course of Mr. Thorp's 6144 be called, 2 M., 1 B., 2 H. in each part, it will run to 6240 changes.

6144

23456	M	B	W	H	23456	M	B	W	H
52364	2		2	2	52364		–		2
45623	2		1	2	65243	2		2	2
24536		–		2	62453			1	2
46532	1			2	56234		–		2
34625	2		2	2	34625	1		2	2
42356		–			42356	2		2	

W. Harrison.

6144

23456	M	B	W	H	23456	M	B	W	H
62534	2		1	2	36452	2	–	1	2
65324	1	–	2	2	34562			1	2
23564			2	2	63425		–		2
62345		–		2	36524	2			2
25346	1			2	64523	2	–	1	2
42356	1	–	2		42356	1		2	

J. Thorp.

6144

23456	M	B	W	H	23456	M	B	W	H
56342	1		2	2	36452	1			2
65243	2			2	34562			1	2
42563			2	2	63425	2		2	2
64235	2		2	2	36524	2			2
45236	1			2	25634			2	2
34256			1		34256	2		1	

H. Johnson.

6240

23456	M	W	H	23456	M	W	H
46532	1	1	2	36452	1		2
35642		2	2	34562		1	2
42563	1	2	2	63425	2	2	2
64235	2	2	2	56234	2	1	2
45236	1		2	65432	2		2
34256		1		34256	1	1	

W. Harrison.

6240

23456	M	B	W	H	23456	M	B	W	H
52364	2		2	2	36452	2	–	1	2
53624	1	–	2	2	34562			1	2
56234			1	2	35642			1	2
64235	1			2	52643	1			2
45236	1			2	23645	2	–	1	2
34256	1	–	2		34256	2		2	

T. Day.

6240

23456	M	B	W	H	23456	M	B	W	H
26354	2			1	52364	2		2	2
53624			2	2	45623	2		1	2
35426	2			2	46253			1	2
56423	1			2	52643			2	2
23645	1		2	2	53246	2			1
34256	2		2		34256			2	

S. Marsh.

6240

23456	M	B	W	H	23456	M	B	W	H
46532	2	–	2	2	56234	2		1	
64235	2			2	64235	1			2
45236	1			2	36452	2		2	2
34562	2		2	2	34562			1	2
63542			1		65432			2	2
34256	1		2		34256	2	–	2	

W. Harrison.

6336

23456	M	B	W	H	23456	M	B	W	H
52364	2		2	2	36452	2	–	1	2
65243	2		2	2	34562			1	2
56342		–	1	2	35642			1	2
62345	1			2	46532	1	–		2
25346	1			2	34625	2		2	2
42356	1	–	2		42356	2		2	

H. Johnson.

6336

23456	M	B	W	H	23456	M	B	W	H
52364	2		2	2	23564	2		2	1
52643	2		2	1	25634			1	2
25346	2			2	26354			1	2
56342	1			2	36524			2	1
23645	1			1	23645	2		2	2
34256	2		2		34256	2		2	

J. Reeves.

6432

23456	M	B	W	H	23456	M	B	W	H
52364	2		2	2	36452	2	–	1	2
65243	2		2	2	23564		–	2	2
56342		–	1	2	25634			1	2
62345	1			2	36524	1	–		2
45236	2	–		2	23645	2		2	2
34256	1	–	2		34256	2		2	

W. Harrison.

6528

23456	M	B	W	H	23456	M	B	W	H
52364	2		2	2	23564	2		2	1
52643	2		2	1	25634			1	2
25346	2			2	26354	1	–	2	2
56342	2	–	1	2	36524			2	1
23645	1			1	23645	2		2	2
34256	2		2		34256	2		2	

J. Reeves.

6816

23456	M	B	W	H	23456	M	B	W	H
23564	2		2	1	52364	2		2	2
54632	2	–	2	2	45623	2		1	2
45236	2			2	46253	1	–	2	2
56234	2	–	1	2	52643			2	2
34625	1		2	2	34625	2	–	2	1
42356	2		2		42356	2		2	

J. Reeves.

Peals with seven courses in each part.

5088

23456	M	B	W	H	23456	M	B	W	H
35426	1	–			35264		–		
52364		–			56342		–		
26543		–			64352	1	–		
36245		–	1		45623		–		
64352		–			52436		–		
45623		–			25634		–	1	2
24536		–		2	53246		–		

J. THORP.

5088

23456	M	B	W	H	23456	M	B	W	H
32654		–	1	2	35264		–		
25346		–			56342		–		
25463		–		1	64523		–		
56234		–			64235		–		1
63542		–			43652		–		
34625		–			54326		–		2
42356		–			42356	1	–		

J. REEVES.

5088

23456	M	B	W	H	23456	M	B	W	H
25634		–	2	1	35264		–		
53246		–			35642		–		1
34562		–			54263	2	–		
46532	1	–			46532		–		
63425		–			63425		–		
32654		–			32654		–		
25346		–			42356		–	1	

W. SOTTANSTALL.

*5088

23456	M	B	W	H	23456	M	B	W	H
35642	2	–			35264		–		
54326		–			56342		–		
25463		–		2	64523		–		
56234		–			26435		–		2
63542		–			63254		–		
34625		–			35642		–		
42356		–			42356		–	2	

W. HUDSON.

†5088

23456	B	W	23456	M	B
35264	–		35642	2	–
56342	–		54326		–
42563	–	2	42563		–
26435	–		26435		–
63254	–		63542	2	–
35642	–		34625		–
42356	–	2	42356		–

J. NICHOLL.

5088

23456	B	H
35264	–	
63542	–	2
34625	–	
42356	–	
25463	–	
62534	–	2
23645	–	

H. HUBBARD.

*** First rung on May 13th, 1816, at Lane End, Staffs. Conducted by its Composer.**

† Rung at St. Peter's, Sowerby, on December 26th, 1858. Conducted by its Composer.

5280

23456	M	B	W	H	23456	M	B	W	H
35264		–			35642	2	–		
56342		–			54326		–		
64523		–			25463		–		2
46325	2			2	56423			2	
62453		–			62534		–		
25634		–			23645		–		
34256		–	2		34256		–		

W. SOTTANSTALL.

5376

23456	M	B	W	H	23456	M	B	W	H
35642	2	–			35264		–		
53246		–	1	2	56342		–		
45362		–		2	64523		–		
56423		–			26435		–		2
62534		–			32654		–		2
23645		–			25634	1	–		
34256		–			34256		–	2	

H. JOHNSON.

5376

23456	M	B	W	H	23456	M	B	W	H
35264		–			35642	2	–		
56342		–			54326		–		
54263		–	2	1	42563		–		
46325	2	–			46325		–	2	1
62453		–			62534	2	–		
25634		–			23645		–		
34256		–	2		34256		–		

W. HARRISON.

5568

23456	M	B	W	H	23456	M	B	W	H
23564		–		1	35264		–		
26435		–	2	1	56342		–		
63254		–			65243		–	1	2
46532		–	2	2	54326	2	–		
63542	1	–			54263		–		1
34625		–			34625	2	–		1
42356		–			42356		–		

W. HARRISON.

If the first course of the foregoing peal of 5568 changes, in seven courses, be called 1 B. 1 W., it brings up the third course-end and reduces the number to 5024. If the fourth course of the following 6048 be called 1 M. 1 B. 2 W., and the fifth 2 M. 1 W., another 6048 will be had. (T. Lockwood.)

6048

23456	M	B	W	H	23456	M	B	W	H
35264		–			32654		–	1	2
63542		–		2	53624			1	
46325		–		2	32465	1		2	
24365	1	–	2		25463	2	–	1	2
65243	2		1		62534		–		2
53246	1			2	23645		–		
34256	1	–			34256		–		

W. HARRISON.

6144

23456	M	B	W	H	23456	M	B	W	H
52364		–		2	32654		–	1	2
26435	2	–			56234	1	–		2
63254		–			65432		–	1	2
46532		–	2	2	53246	2	–		
35642	1	–		2	34562		–		
53246		–	1	2	23645		–	2	2
34256	1	–			34256		–		

T. DAY.

6144

23456	M	B	W	H	23456	M	B	W	H
52364		-		2	32654		-	1	2
26435	2	-			36524	1	-	2	2
63254		-			25634	1	-		2
56342		-		2	53246		-		
65243		-	1	2	34562		-		
53246	2	-	1	2	23645		-	2	2
34256	1	-			34256		-		

T. LOCKWOOD.

6336

23456	M	B	W	H	23456	M	B	W	H
35264		-			52364		-		2
63542		-		2	46325	2	-	2	1
65432			1	2	24653		-		2
52436	2	-	1	2	26543	1	-	2	2
52364		-		1	63542	1			2
34625	2	-	2	2	34625		-		
42356		-			42356		-		

W. HARRISON.

A variation of the following 7008, by Mr. Sottanstall, may be had by calling 2 W. instead of the 2 H. in the third course.

7008

23456	M	B	W	H	23456	M	B	W	H
36452	2	-	1	2	62534	2		1	2
34562			1	2	53624	1	-	2	1
63425		-		2	26354			2	2
35426	1			2	23564			1	2
36524	2			1	62345		-		2
64523	2	-	1	2	25346	1			2
42356	1		2		42356	1	-	2	

W. SOTTANSTALL.

7008

23456	M	B	W	H	23456	M	B	W	H
52364	2		2	2	23564	2		2	1
26354	1	-			25634			1	2
52643		-		2	26354	1	-	2	2
25346	2			2	53624			2	2
56342	2	-	1	2	32546		-		
23645	1			1	23645		-	1	2
34256	2		2		34256	2		2	

J. REEVES.

7008

23456	M	B	W	H	23456	M	B	W	H
36452	2	-	1	2	23564	2		2	1
34562			1	2	53624			2	1
62345	2		1		26354			2	2
25346	1			2	52364			1	
26543	2			1	64235	1		2	2
23645	2			1	45236	1			2
34256	2		2		34256	1	-	2	

W. HARRISON.

7104

23456	M	B	W	H	23456	M	B	W	H
62534	2		1	2	36452	2	-	1	2
65324	1	-	2	2	34562			1	2
46253		-	2	2	63425		-		2
42563			1	2	35426	1			2
64235		-		2	26543	2	-		2
45236	1			2	63542	2	-	1	2
34256	1	-	2		34256	1		2	

H. JOHNSON.

7104

23456	M	B	W	H	23456	M	B	W	H
26354	2			1	52364	2		2	2
23564			1	2	45623	2		1	2
53624			2	1	46253			1	2
35426	2			2	26543			2	1
56423	1			2	62345	2			2
23645	1		2	2	53246	1			1
34256	2		2		34256			2	

S. MARSH.

7104

23456	M	B	W	H	23456	M	B	W	H
56342	2	-		2	36452	2	-	1	2
23645	1			1	53462			1	
65432	2	-	2	2	62345	1		2	2
34562			2	2	26543	2			2
62345	2		1		34562	2	-	2	1
25346	1			2	35642			1	2
42356	1	-	2		42356		-	2	

W. HARRISON.

* 5248 †

23456	M	B	W	H	23456	M	B	W	H
63542	2	–		1	26354		–	1	1
45362	1	–		2	54263		–	2	
54263		–	1	2	53462		–	1	1
46325	2	–			23564		–	1	
62453		–			24365		–	1	1
34256	2	–	1	1	62345	1	–	2	
45236	1	–			24653		–		
25346	1	–		1	32546		–	2	2
54326	1	–			45236	1	–		2

H. Dains.

‡ 5056 §

23456	M	B	W	H	23456	M	B	W	H
52364		–		2	35264		–		
25463		–	1	2	45362		–	1	
64352	2	–	2		54263		–	1	2
64523		–		1	34562		–	1	
34625		–	1		46325		–		
42356		–			36245	1	–		1
53246	1			2	64352		–		
34256	1	–			32546	2	–	2	2
45236	1	–			45236	1	–		2

H. Dains.

Peals with the sixth three course-ends home in each part.

On November 5th, 1877, I received from Mr. Dains the following 5248, in two parts, with the sixth the extent in all positions, and also three course-ends home in each part. This was an entirely original production in two-part peals, and, although, as he informed me, "it was thought but little of in London," it was a point gained, and opened out a new field for investigation. Why it was thought but little of in London, where there had been for years such a stagnation in the production of anything like good peals of Treble Bob Major, I was at a loss to understand, and with, I hope, a keener appreciation of its merits, soon took an opportunity of calling it. On January 16th, 1878, I received the following peal of 5120 changes from Mr. Dains, which also has the sixth the extent in 5-6, and three course-ends home in each part; but although the course-ends, when the sixth is in 5-6, are disposed in a more symmetrical manner, and the peal is contained in a less number of changes, it does not contain the excellent quality of the sixth the extent in all positions, which is contained in the original peal. Mr. T. Lockwood has since produced peals upon this plan, two of which contain the sixth the extent in all positions.

* First rung on November 17th, 1877, by the Yorkshire Association, at All Saints', Otley. Conducted by Jasper W. Snowdon.

† First rung on June 30th, 1877, by the Cumberland Youths, at St. George's, Camberwell. Conducted by Geo. Newson; being the first ever rung with these qualities.

‡ First rung on January 14th 1878, by the Cumberland Youths, at St. Peter's, Walworth. Conducted by Geo. Newson.

§ First rung on December 22nd, 1877, by the Yorkshire Association, at St. Chad's, Headingley. Conducted by Jasper W. Snowdon; being the first ever rung with these qualities in this number of changes.

5056

23456	M	B	W	H	23456	M	B	W	H
54632	1		1		56234	2		1	
32465	1		2	2	24365	1		1	2
25463	2	–	1	2	46325	1	–		
35642	2	–		1	25463		–	2	
35426		–		1	23564	2			1
52436			2		23645		–		1
23645	2	–			52436		–	2	2
32546		–	1	2	54326	1	–	2	2

T. LOCKWOOD.

* 5120

23456	M	B	W	H	23456	M	B	W	H
52364		–		2	35264		–		
25463		–	1	2	34562		–	1	1
64523	1	–		2	43265		–	1	2
46325		–	1	2	42635	1	–	2	2
65324	2	–	1	2	46325	1	–	2	2
54326	2	–	1	2	23645	1	–		2
34256	1	–		1	32546		–	1	2
45236	1	–			45236	1	–		2

H. DAINS.

5184

23456	M	B	W	H	23456	M	B	W	H
56342	2	–		2	63254		–	1	
64352	1	–			36452		–	1	2
53462	1	–		2	23564		–	2	
32465	2	–	1	2	43265		–	1	
45623	2	–	2	2	45362		–	1	1
43526		–	1	1	63542	1	–		2
32546	1	–			52436	2	–	2	2
45236	1	–		2	54326	1	–	2	2

T. LOCKWOOD.

† 5248

23456	M	B	W	H	23456	M	B	W	H
62534	2		1	2	23564		–		1
34625		–	2		36245		–		
34256		–		2	45623	2	–		2
53462		–		2	52364	1		2	
32465	2	–	1	2	24365	2	–	1	2
64523	2	–	2		63542	1		1	
53246	1		1	2	52436	2	–	2	2
45236	1	–	2		54326	1	–	2	2

H. DAINS.

5312

23456	M	B	W	H	23456	M	B	W	H
64352	2	–	1	1	23564		–		1
64523		–		1	26435		–	2	1
34256	2	–		1	26354		–		1
53462		–		2	52364	1	–	2	
32465	2	–	1	2	24365	2	–	1	2
65243	2	–		2	23645	1	–	2	2
53246	2	–	1	2	52436		–	2	2
45236	1	–	2		54326	1	–	2	2

T. LOCKWOOD.

5376

23456	M	B	W	H	23456	M	B	W	H
62534	2		1	2	32654		–	1	2
35264	1	–		2	54263	1		2	2
54263	2	–	1	2	34562		–	1	
46325	2	–			32465		–	1	1
65324	2	–	1	2	34625	1	–	2	2
43526	2	–	1	1	23645	1	–	2	
32546	1	–			52436		–	2	2
45236	1	–		2	54326	1	–	2	2

T. LOCKWOOD.

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* First rung on September 30th, 1878, by the Cumberland Youths, at St. Mary's, Lambeth. Conducted by J. W. Cattle.

† First rung on December 11th, 1877, by the Yorkshire Association, at St. Matthew's, Holbeck. Conducted by Jasper W. Snowdon; being the first ever rung on the plan.

Peals with the sixth three course-ends each way in each part.

The idea once being broached of having the sixth more than the customary two course-ends each way in each part, peals with that bell three course-ends each way, soon followed. The first of these was obtained by Mr. Dains, who, on December 18th, 1877, forwarded me the following one of 5440 changes, which can be reduced in the following manner. Call, in either part, an extra bob at H. in the first course, omit the calling of the second course, and call a bob at the M. in the next course, and you will run into the original third course at that point, and the peal come round in 5184 changes.

In the first of the two following peals by Mr. T. Lockwood, the sixth is its extent in all positions, while the original of the second contains all the 867's, and the reverse all the 86's.

*5184

23456	M	B	W	H	23456	M	B	W	H
35264	2		2		35264	2		2	
54263	2	–	1	2	54263	2	–	1	2
62345	1		1		52643	1	–	2	2
52436	2	–		1	52436		–		1
52364		–		1	52364		–		1
65243		–		2	64523		–	2	
53246	2	–	1	2	53246	1		1	2
45236	1	–	2		45236	1	–	2	

T. Lockwood.

†5056

23456	M	B	W	H	23456	M	B	W	H
35264	2		2		52364	2		2	2
34562	2			1	42563		–	1	
36245		–	2	1	43265		–	1	1
32465			1	2	53624	1		2	1
42635	1	–		1	35426		–	1	2
43526	2		1	1	64523	1			1
32546	1	–			34256	2	–		1
45236	1	–		2	45236			2	

T. Lockwood.

The following peals are composed with the sixth the three course-ends each way at consecutive course-ends. Alongside Mr. Dains's 5440, I give the peal shewing the second part called, as described previously, to curtail the number to 5184 changes. The first course-end of Mr. Lockwood's 5248 may be brought up by calling the two annexed courses, when it will run to 6080 changes.

23456	M	B	W	H
46532	2	–	2	2
52364	2	–	2	2

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* First rung on January 5th, 1878, by the Yorkshire Association, at St. Paul's, Shipley. Conducted by Jasper W. Snowdon; being the first ever rung on this plan.

† First rung on May 4th, 1873, by the Yorkshire Association, at St. Matthew's, Holbeck. Conducted by Tom Lockwood.

* 5056 †

23456	M	B	W	H
52364	2		2	2
42563		–	1	
43265		–	1	1
36245	1	–		
64352		–		
45623		–		
43526		–	1	1
32546	1	–		
45236	1	–		2

T. LOCKWOOD.

* 5120 ‡

23456	M	B	W	H
46532	2	–	2	2
52364	2	–	2	2
42563		–	1	
43265		–	1	1
62534	1		1	
43526	1		1	1
32546	1	–		
45326	1	–		2

H. DAINS.

* 5248 §

23456	M	B	W	H
52364	2		2	2
42563		–	1	
43265		–	1	1
42635	1	–	2	2
65324	1		1	2
43526	2	–	1	1
32546	1	–		
45236	1	–		2

T. LOCKWOOD.

5440

23456	M	B	W	H
56342	2	–		2
36452	1	–		1
34562	1	–	2	2
24365		–	1	
25463		–	1	1
45623	1	–		1
43526		–	1	1
32546	1	–		
45236	1	–		2

H. DAINS.

‖ 5184

23456	M	B	W	H
64352	2	–	1	1
46253		–	1	2
34562		–	2	2
24365		–	1	
25463		–	1	1
45623	1	–		1
43526		–	1	1
32546	1	–		
45236	1	–		2

Second part thus:

	M	B	W	H
56234	2	–	1	2
52364	1	–	2	2
42563		–	1	
43265		–	1	1
23645	1	–		1
25346		–	1	1
54326	1	–		
23456	1	–		2

H. DAINS.

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* Reverses to the same peal.

† First rung on August 20th, 1878, by the College Youths, at All Saints', Huntsham, Devonshire. Conducted by Jasper W. Snowdon.

‡ First rung on June 20th, 1878, by the Cumberland Youths, at St. James's, Clerkenwell. Conducted by G. Newson.

§ First rung on October 5th, 1878, by the Yorkshire Association, at St. Matthew's, Holbeck. Conducted by Tom Lockwood.

‖ First rung on September 21st, 1878, by the Cumberland Youths, at St. Andrew's, Holborn. Conducted by J. W. Cattle.

The two following peals have each the sixth the extent in all positions, and the second is the longest obtained with the sixth three course-ends each way in each part; the first peal is merely an extension of Mr. Lockwood's 5184, with the same qualities. At the time the 6976 was composed, it was the longest length then obtained in two parts.

6016

23456	M	B	W	H	23456	M	B	W	H
46532	2	–	2	2	46532	2	–	2	2
35264	2	–	2		35264	2	–	2	
54263	2	–	1	2	54263	2	–	1	2
62345	1		1		52643	1	–	2	2
52436	2	–		1	52436		–		1
52364		–		1	52364		–		1
65243		–		2	64523		–	2	
53246	2	–	1	2	53246	1		1	2
45236	1	–	2		45236	1	–	2	

T. Lockwood.

6976

23456	M	B	W	H	23456	M	B	W	H
56342	2	–		2	52436	1	–	2	
36452	1	–		1	64235	2	–	1	1
53462	1	–	2		46532		–	1	2
32465	2	–	1	2	32465		–	2	
42635	1	–		1	25463	2	–	1	2
62345	1	–		1	24653	1	–	2	2
52436	2	–		1	24536		–		1
52364		–		1	24365		–		1
65243		–		2	26543		–	2	1
53246	2	–	1	2	23645		–	1	1
45236	1	–	2		32546		–	1	2

T. Lockwood.

Peals with the fifth and sixth their extent in 5-6.

Although many attempts had previously been made to obtain a two-part peal, with the fifth and sixth their extent in 5-6, it was not until 1878, when Mr. Lockwood composed the following peal of 5376 changes, that this object was accomplished. By using the alternative, calling in the sixth course in each part of the original, the number will be increased to 5504 changes. Since the appearance of Mr. Lockwood's peal, Mr. Marsh has obtained the following 6080.

* 5376

23456	M	B	W	H	23456	M	B	W	H
36452	1			2	54326			2	2
42563	1		1	2	25463	2		2	2
26543	1	–			43652	2	–	2	2
62345		–	1	2	32654	1			2
63425			1	2	25634	1	–		
45236	1		1	2	52436		–	1	2
34562	2		2	2	46325	1		1	2
43265	2			2	43265			1	2

T. Lockwood.

6080

23456	M	W	H	23456	M	W	H
24536		1	2	54632	1	1	
35426		2	2	62345	1	1	2
53624	2		2	63425		1	2
34625	1		2	45236	1	1	2
25463	1	2	2	64352	2	1	2
43652	1	1	2	63542		1	2
32654	1		2	45362		2	2
56423	1	1		54263	2		2
43265	1	1	2	43265	1		2

S. Marsh.

* First rung on Saturday, September 7th, 1878, by the Yorkshire Association, at All Saints', Otley. Conducted by Tom Lockwood; being the first ever rung with these qualities.

MISCELLANEOUS TWO-PART PEALS.

Under this heading I give the two-part peals which cannot be arranged in any of the foregoing classes. The following peals, by Mr. Harrison, are on the principle of the fifth and sixth the extent in 5-6; and although they are not quite complete in that respect, they are exceedingly musical compositions, especially the three which are contained in fourteen courses. By using the alternative calling in the fifth and sixth courses in the first of the 5056's, different numbers may be obtained. Mr. Lockwood's peal is one result of his endeavours to obtain the sixty course-ends in a less number of changes than 6720; it will be seen that eighteen out of the twenty courses necessary to produce this result are contained in these 5888 changes.

5056

23456	M	B	W	H	23456	M	B	W	H
32654	2			2	36452	2	–	I	2
36524			I	2	34562			1	2
35264	I	–	2	2	52643	I		I	2
63542	2		2	2	45236	2		2	2
52436	I		I	2	56234	2	–	I	2
26435	I			2	64235	I			2
24365	I	–	2	2	32465			2	2

W. Harrison.

5056

23456	M	B	W	H	23456	M	B	W	H
64352	2	–	I	I	24536	I	–	2	2
52436	I		2	2	35426			2	2
26435	2	–	I	2	63254		–	2	2
34625	I	–		2	36452		–	I	2
25463	2	–		2	34562	I	–	2	2
52364	2			2	36245	2		I	I
24365	2	–	I	2	32465	I	–	2	2

W. Harrison.

5120

23456	M	W	H	23456	M	W	H
62534	2	I	2	52364	2	2	2
35264		2	2	25463	2		2
24653	I	I	2	53462	I		2
32546	2	I	2	62345	I	2	2
35426		I	2	35426	I	I	2
24536		2	2	53624	2		2
32465	2	2	2	24365	I	2	2

W. Harrison.

5248

23456	M	B	W	H	23456	M	B	W	H
52364		–		2	32654	2			2
53624			I	2	56234			2	2
34625	2	–	I	2	64235	I			2
36245			I	2	36452		–		2
43652		–		2	62453	I			2
46532			I	2	64523	I	–	2	2
64235	2			2	43526	I			2
32465			2	2	24365		–		2

W. Harrison.

5888

23456	M	B	W	H	23456	M	B	W	H
52364		-		2	36452	2	-	1	2
65243		-		2	62453	2	-	1	2
46532		-		2	64523	1	-	2	2
64235	2			2	26435		-		2
36452		-		2	32654		-		2
53624		-		2	56234			2	2
34625	2	-	1	2	35642		-		2
36245	1	-	2	2	43526		-		2
32465	1	-	2	2	24365		-		2

J. LOCKWOOD.

The following peals are examples shewing the number of courses to which two-part peals will run in the least number of changes, and also the extent of changes that have yet been obtained in such peals. By calling the first course of Mr. T. Lockwood's 7488 in either part 2 M. 2 W., the second course-end will be brought up, and the peal reduced to 7072 changes.

5056

23456	M	B	W	H	23456	M	B	W	H
35264		-			35264		-		
56342		-			64352		-	2	
64523		-			53246	2	-	2	
42635		-			34562		-		
36524	2	-	2		46325		-		
62453	2	-			62453		-		
25634		-			56234		-		2
53246		-			63254	1	-		
34562		-			35642		-		
43265		-	1	2	54326		-		

J. LOCKWOOD.

5056

23456	M	B	W	H	23456	M	B	W	H
35264		-			52364		-		2
56342		-			26435	2	-		
52643		-	1	1	26354		-		1
24536		-			65324			2	
43265		-			52643		-		
36452		-			24536		-		
65324		-			43265		-		
64523	2			1	43652		-		1
42635		-			35642	1	-		
54326		-	2	2	54326		-		

J. LOCKWOOD.

5056

23456	M	B	W	H	23456	M	B	W	H
35264		-			35264		-		
56342		-			25634	1	-		1
64352	1	-			53246		-		
52643		-	2		34256	1	-		
23645	1			2	45362		-		
34256		-			64523		-		2
45362		-			26543			1	
25463		-	1		64352	2	-		
25634		-		1	24653		-	1	
45236		-	1		45236		-		

J. LOCKWOOD.

5184

23456	M	B	W	H	23456	M	B	W	H
35264		-			52364		-		2
56342		-			43265	2	-	1	1
64523		-			36452		-		
64235		-		1	65324		-		
36245	1	-	2		65243		-		1
36452		-		1	54632		-		
65324		-			26435	2	-	1	1
52643		-			63254		-		
52436		-		1	35642		-		
54326	1	-	2	2	54326		-		

J. LOCKWOOD.

5824

23456	M	B	W	H	23456	M	B	W	H
35264		–			35426	1	–		
56342		–			52364		–		
64523		–			26543		–		
42635		–			64235		–		
45236		–	1	1	54632		–	1	
45362		–		1	54326		–		1
56423		–			54263		–		1
62453	1	–			46253	1	–		
25634		–			65432		–		
53246		–			53624		–		
34562		–			32546		–		
43265		–	1	2	43265		–		2

T. Lockwood.

7232

23456	M	B	W	H	23456	M	B	W	H
36452	2	–	1	2	52436	1	–	2	
53462	1	–	2		26435	2	–	1	2
24365	2	–	1	1	32465	1	–	2	
24653		–		1	65243	2	–		2
52643	1	–	2		25463	1	–		1
52436		–		1	45623	1	–		1
52364		–		1	24653	1	–	2	
26543		–			24536		–		1
35642	2	–	1	1	24365		–		1
32546		–	1	1	46253		–		
23645		–	1	2	32654	2	–	1	1
45236		–	2		32546		–		1

T. Lockwood.

7232

23456	M	B	W	H	23456	M	B	W	H
36452	2	–	1	2	36452	2	–	1	2
53462	1	–	2		53462	1	–	2	
62345	2	–		2	32465	2	–	1	2
24365	1	–			42635	1	–		1
24653		–		1	34625	1	–	2	
52643	1	–	2		34256		–		1
52436		–		1	34562		–		1
52364		–		1	46325		–		
26543		–			53624	2	–	1	1
35642	2	–	1	1	32546		–		
53246		–	1	2	23645		–	1	2
45236	1	–	2		45236		–	2	

T. Lockwood.

7488

23456	M	B	W	H	23456	M	B	W	H
46532	2	–	2	2	46532	2	–	2	2
35264	2	–	2		35264	2	–	2	
64523	2	–		2	54263	2	–	1	2
54263	1	–		1	24653	1	–		1
24653	1	–		1	52643	1	–	2	
52643	1	–	2		52436		–		1
52436		–		1	52364		–		1
52364		–		1	26543		–		
26543		–			35642	2	–	1	1
35642	2	–	1	1	32546		–	1	1
53246		–	1	2	23645		–	1	2
45236	1	–	2		45236		–	2	

T. Lockwood.

ONE-PART PEALS.

Peals with the fifth and sixth the extent in 5-6.

In the classification of one-part peals, that have the fifth and sixth bells their extent each way in 5-6, I purpose to proceed according to the number of courses in which such peals are produced. So many of these peals can be varied by adopting some alternative calling in one or two courses only, by which the number of their changes is increased or diminished; that to compare a newly obtained peal with those peals of a similar number of changes only, will not so thoroughly test its originality as if it be compared with peals contained in a similar number of courses.

Peals in fourteen courses.

The least number of courses in which this quality can be obtained, is fourteen (Part I., p. 41), in which number two peals, by Messrs. Lates and Cashmore, have only been produced. Several very similar ones have, however, been brought out, but in none of them has there been sufficient variation upon the original or reverse of one of the following peals to admit of their being considered original, that is, different compositions. For instance, the reverse of Mr. Lates's peal can be varied by transposing the calling of the fifth and twelfth courses, or it can be increased to 5056 changes, by calling the tenth course, 1 M., 2 W., 2 H.; but in both cases exactly the same course-ends will be produced.

5024

23456	M	B	W	H	23456	M	B	W	H
54326			2	2	36452	2	–	1	2
25463	2		2	2	23564	2		1	2
32654	2		1	2	62345		–		2
24653	1			2	63425	1	–	2	2
52436		–		2	25346	2	–		2
36245	1		2	2	42563	2		2	2
32465			1	2	24365	2			2
64235			2	2	45362	1			2
36452	2		2	2	24653	2		1	2
23564		–	2	2	52436		–		2
34562	2	–	1	2	54326			1	2
63425		–		2	26435	1		2	2
25346	1		2	2	32654	2		2	2
23456	1	–	2	2	23456	2			2

J. J. B. LATES.

5056

23456	M	B	W	H	23456	M	B	W	H
52364	2		2	2	32654	2			2
34625	2	–	2	2	24653	1			2
26435			2	2	32546	2		1	2
45362	2	–	2	2	35426	1	–	2	2
54263	2			2	24536	1	–		2
43265	1			2	36452	1		2	2
62345	1	–		2	34562			1	2
25346	1			2	43265		–	1	2
62453	2		1	2	42635			1	2
26354		–	1	2	36245			2	2
64352	2	–	1	2	25463	2	–	2	2
52436	1		2	2	52364	2			2
54326			1	2	34625	2	–	2	2
23456			2	2	23456	2		2	2

P. CASHMORE.

Peals in fifteen courses.

e following peals are in fifteen courses. Mr. Sottanstall's 5024 can be by calling the fifth course 2 M., 1 B., 1 W., 2 H., and the twelfth 1 B., 1. W., 2 H., when it will run to 5056 changes. If the fifth only be varied in this manner the number will be 5088. In Mr. 's peal, if the fourth or thirteenth courses be called 2 M., 1 B., 1 W., he number will be increased to 5088 changes; if both are called in y it will be 5152.

5024

M	B	W	H	23456	M	B	W	H
1			2	36452	1			2
1			2	34562	1	–	2	2
2			2	42563	1			2
		1	2	65243			2	2
1			2	62453			1	2
1			2	26354	2			2
2			2	23564			1	2
		2	2	32465	2			2
1			2	64235			2	2
		2	2	62345			1	2
1			2	63425			1	2
2			2	35426	1			2
		1	2	24536			2	2
2	–	1	2	25346			1	2
		1	2	23456			1	2

W. SOTTANSTALL.

5024

23456	M	B	W	H	23456	M	B	W	H
54326	1	–		2	36452	1			2
25463		–		2	53624		–		2
53462	1			2	34625	1			2
62345	1		2	2	25463	1		2	2
63425			1	2	24653	1	–	2	2
24365			2	2	32546	2		1	2
62453		–		2	35426			1	2
26354	2			2	24536			2	2
64352	1			2	32465		–		2
52436	1		2	2	23564	2			2
26435	2	–	1	2	34562	1			2
52364	2		1	2	23645	2		1	2
53624			1	2	26435			1	2
25346		–		2	32654		–		2
23456			1	2	23456		–	1	2

J. THORP.

5024

M	B	W	H	23456	M	B	W	H
		2	2	54326			2	2
		1	2	53246			1	2
		1	2	52436			1	2
1			2	35264		–		2
2	–	2	2	53462		–	1	2
1	–			32465	2	–	1	2
	–	2	2	34625	1	–	2	2
	–	1	2	26435	1	–		2
2	–	1	2	63542	2	–		
1	–	2	2	36245		–	1	2
1	–		2	25463	2	–	2	2
	–		2	24653			1	2
1			2	43652	1			2
1			2	32654	1			2
2			2	23456	2			2

N. J. PITSTOW.

5024

23456	M	B	W	H	23456	M	B	W	H
24536	1	–	2	2	36452	1			2
35426	1	–		2	34562			1	2
23564		–		2	42563	1			2
34562	1			2	23564	1			2
42563	1			2	25634	1	–	2	2
24365	2			2	32546	2		2	2
62453		–		2	35426			1	2
26354	2			2	24536			2	2
64352	1			2	32465		–		2
56423	2		2	2	64235			2	2
63425	2	–	1	2	62345			1	2
64235			1	2	63425			1	2
62345			1	2	26354		–		2
25346	1			2	62453		–	1	2
23456			1	2	23456	2	–	1	2

H. HUBBARD.

5024

23456	M	B	W	H
36452	1			2
34562			1	2
63425	2		2	2
26354	2		2	2
42563		–	2	2
23564	1			2
32465	2			2
64235			2	2
62345			1	2
46253		–		2
54632		–		2
35426		–		2
24536			2	2
25346			1	2
23456			1	2
36452	1			2
62453	1			2
26354	2			2
52643		–		2
45236		–		2
34562		–		2
42563	1			2
24365	2			2
63425			2	2
64235			1	2
35426	2	–		2
23564	2		2	2
62345	2		2	2
25346	1			2
23456			1	2

N. J. PITSTOW.

5056

23456	M	B	W	H
56234	2		1	
64235	2	–	1	2
36452		–		2
62453	1			2
26354	2			2
23564			1	2
34562	2	–	1	2
42563	1			2
24365	2			2
63425			2	2
35426	1			2
24536			2	2
62345		–	2	2
25346	1			2
23456			1	2
54326			2	2
53246			1	2
52436	1	–	2	2
26435	1			2
34625			2	2
36245			1	2
43652		–		2
54632	1	–	2	
32465	1		2	2
25463	1			2
24653			1	2
53462	2	–		2
35264	2			2
32654			1	2
23456	2			2

J. PLATT.

5056

23456	M	B	W	H
36452	2	–	1	2
65324		–		
23564	1	–		2
34562	2	–	1	2
42563	1			2
24365	2			2
63425			2	2
64235			1	2
62345			1	2
25346	1			2
43526	1	–		2
45236			1	2
26354	2	–	2	2
62453		–	1	2
23456	2	–	1	2
24536	1	–	2	2
35426	1	–		2
46253	2	–	2	2
63254	1			2
36452		–	1	2
34562			1	2
42563	1			2
23564	1			2
32465	2			2
64235			2	2
62345			1	2
63425	1	–	2	2
53624		–	1	
25346		–		2
23456	1	–	2	2

T. LOCKWOOD.

* 5056

23456	M	B	W	H
52364		–		2
25463		–	1	2
53462	1			2
32465	1			2
34625	1	–	2	2
36245	1	–	2	2
42635	1	–		2
24536		–	1	2
25346			1	2
43526	1	–		2
65324	2	–	1	1
63254			1	2
36452		–	1	2
62453	2	–	1	2
23456	2	–	1	2
24536			1	2
25346			1	2
43526	1	–		2
24365		–		2
23645	1	–	2	2
26435	1	–	2	2
34625	1	–		2
56423	1			1
54263	1	–	2	2
45362		–	1	2
52364	1			2
63254	1	–		2
36452		–	1	2
62453	2	–	1	2
23456	2	–	1	2

H. DAINS.

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* First rung on November 4th, 1876, by the Cumberland Youths, at St. George's, Camberwell. Conducted by G. Newsom.

5056

6	M	B	W	H	23456	M	B	W	H
4		–		2	52364		–		2
4	1	–		2	25463		–	1	2
2		–	1	2	53462	2	–	1	2
3	2	–	1	2	54632	1	–	2	2
3	1	–		2	25346		–	2	2
2		–	1	2	43526	1	–		2
4	2	–		2	34625		–	1	2
6	2	–	1	2	36245	1	–	2	2
6	1	–	2	2	42635	1	–		2
6	1	–		2	24536		–	1	2
5		–		2	32465		–		2
5	1	–	2	2	63254		–		2
5	1	–	2	2	36452		–	1	2
5	1	–		2	62453	2	–	1	2
6		–		2	23456	2	–	1	2

H. DAINS.

5088

23456	M	B	W	H	23456	M	B	W	H
54326			2	2	54326			2	2
25463	2		2	2	53246			1	2
53462	1			2	52436			1	2
35264	2			2	35264	2		2	2
35642		–		1	53462		–	1	2
53246		–	1	2	32465	2	–	1	2
52436			1	2	25463	1			2
26435	1			2	24653			1	2
24365			1	2	43652	1			2
23645	1	–	2	2	63542	1	–		1
46325	1	–		2	46325		–		2
24653	2		2	2	23645			2	2
43652	1			2	26435			1	2
32654	1			2	32654	2		2	2
23456	2			2	23456	2			2

T. LOCKWOOD.

5088

6	M	B	W	H	23456	M	B	W	H
4		–		2	25634	2		1	1
3		–	1	2	32546	2		2	2
2	2	–	1	2	35426			1	2
5	1			2	24536			2	2
5			2	2	36452	2	–		2
5			1	2	62453	1			2
5			1	2	26354	2			2
6	1			2	23564			1	2
6			2	2	34562	1			2
6			1	2	42563	1			2
3		–	2	2	24365	2			2
4	2			2	23645			1	2
2	1			2	26435	1	–	2	2
3	2		2	1	34625	1	–		2
6	1		2	2	23456		–		2

W. SOTTANSTALL.

5120

23456	M	B	W	H	23456	M	B	W	H
36452	1			2	24536			1	2
63254		–	1	2	25346	1	–	2	2
52364			2	2	43526	1	–		2
25463		–	1	2	34625	2			2
53462	2	–	1	2	26435	1	–		2
32465	1			2	24365			1	2
34625			1	2	23645	1	–	2	2
36245	1	–	2	2	45362	2	–		2
42635	1	–		2	52364	1			2
53624	1		1	1	25463	2			2
35426	2			2	45623			2	1
24536			2	2	63254	1		1	2
25346			1	2	36452		–	1	2
62453		–	2	2	62453	2	–	1	2
23456	2	–	1	2	23456	1			2

W. SOTTANSTALL.

[*] 5152

23456	M	B	W	H	23456	M	B	W	H
52364		–		2	32654	2			2
24365	I			2	54263	2	–		2
63425	I	–		2	65432	2		2	2
45236	I		I	2	32546	I		2	2
32546	I	–		2	35426			I	2
23645	2			2	24536	I	–		2
45362	2	–		2	42635	2			2
54263	2			2	36245			2	2
62453			2	2	53462		–	2	2
26354		–	I	2	64352			2	2
64352	I			2	46253		–	I	2
26543	2		I	2	23564	I		I	2
42635	2		2	2	32465		–	I	2
54326		–	2	2	34625			I	2
23456			2	2	23456		–		2

J. DIXON

5152

23456	M	B	W	H	23456	M	B	W	H
52364		–		2	36452	2	–	I	2
25463		–	I	2	42563	2	–	2	2
24653			I	2	45623	I	–	2	2
52436		–		2	23564	2	–		2
65324		–	2	2	62345		–		2
54326	2	–	I	2	25346	I			2
36245	2	–	2	2	43526	I	–		2
32465	I	–	2	2	24365		–		2
63254		–		2	45362	2	–	I	2
36452		–	I	2	32654	2	–	2	2
34562			I	2	24653	2	–	I	2
63425		–		2	52436		–		2
64235	I	–	2	2	26435	I			2
25346	2	–	2	2	34625	I	–		2
23456	I	–	2	2	23456		–		2

W. HARRISON.

5152

23456	M	B	W	H	23456	M	B	W	H
52364		–		2	36452	I			2
25463		–	I	2	26543	2	–		I
53462	2	–	I	2	25463			I	2
62345	I		2	2	32654		–	2	2
63425			I	2	24653	2	–	I	2
24365	I	–		2	32546		–	2	2
62453	2		2	2	35426			I	2
26354	2			2	24536			2	2
64352	I			2	32465	2		2	2
52436	2	–		2	23564		–	I	2
54326	I	–	2	2	34562	I			2
26435	2	–		2	23645	2		I	2
54632	I			I	26435	I	–	2	2
25346		–	2	2	34625	I	–		2
23456			I	2	23456		–		2

S. MARSH.

5152

23456	M	B	W	H	23456	M	B	W	H
52364		–		2	36452	I			2
24365	I			2	34562	I	–	2	2
62453	2		2	2	42563	2	–	I	2
26354		–	I	2	23564	I			2
64352	I			2	36524	I	–		
52436	2	–		2	23645		–		2
54326	I	–	2	2	26435	I	–	2	2
25463	2		2	2	32654	2		2	2
53462	2	–	I	2	24653	2	–	I	2
36524		–			32546		–	2	2
63425		–	I	2	35426			I	I
64235			I	2	24536	I	–		2
62345	I	–	2	2	32465	2		2	2
65346	2	–	I	2	34625			I	2
23456			I	2	23456		–		2

J. COX.

[*] First rung on February 1st, 1876, by the Yorkshire Association, at St. Peter's, Birstall. Conducted by its Composer.

5184

23456	M	B	W	H	23456	M	B	W	H
36452	1			2	24536	1	-	2	2
23564		-	2	2	35426	1	-		2
34562	2	-	1	2	63254		-	2	2
42563	1			2	36452		-	1	2
64235		-		2	62453	1			2
32465			2	2	56234	2		2	2
34625			1	2	45362		-	2	2
36245	1	-	2	2	52364	2	-	1	2
45623	2	-		2	24365	1			2
24536	2		2	2	42563	2			2
25346			1	2	64235		-		2
43526	1	-		2	62345			1	2
26354	2	-		2	63425	1	-	2	2
62453		-	1	2	25346	2	-		2
23456	2	-	1	2	23456			1	2

T. Lockwood.

5216

23456	M	B	W	H	23456	M	B	W	H
36452	1			2	46532	1		1	2
42563	1		1	2	52364	1		1	2
23564	1			2	25463	2			2
34562	1			2	53462	1			2
23645	2		1	2	62345	2	-		2
26435	1	-	2	2	63425	1	-	2	2
32654	2		2	2	26354	2		2	2
24653	2	-	1	2	64352	2	-	1	2
32546		-	2	2	52436	1		2	2
35426			1	2	54326			1	2
24536			2	2	53246			1	2
56342	1		1	2	26435	1		1	2
32465	1		1	2	24365			1	2
34625			1	2	62453		-		2
23456		-		2	23456	1			2

W. Harrison.

5344

23456	M	B	W	H	23456	M	B	W	H
46532	2	-	2	2	24536			1	2
52364	2	-	2	2	25346			1	2
25463		-	1	2	43526	1	-		2
53462	1			2	56234	2	-	2	2
32465	1			2	24365	2	-	2	2
64235	1	-		2	42563	2			2
62345			1	2	23564	1			2
63425	1	-	2	2	42635	2		1	2
25346	2	-		2	46325	1	-	2	2
62453	2		1	2	23645			2	2
26354	2			2	45362	1		2	2
64352	2	-	1	2	24653		-	2	2
52436	1		2	2	43652	2	-	1	2
54326			1	2	32654	1			2
23456			2	2	23456		-	1	2

J. Thorp.

Peals in sixteen courses.

The following peals are each contained in sixteen courses. Mr. Day's peal is a very excellent production, as it has the fifth and sixth their extent each way in consecutive courses, and, except in the "lengthening courses" when neither of these bells are in 5-6, bobs B. are not used. By this means a quantity of the most musical changes are brought into the peal, and the fifth and sixth bells are not disturbed in the interior leads of the courses in which they are working their extent in fifth's and sixth's places. If the sixth course of Mr. Day's peal be called 2 W. 2 H. it runs to 5120 changes. In Mr. Sottanstall's 5120, if the eighth course be called 1 M. 1 B. 2 W. 2 H., the number of changes will be increased to 5184. Mr. Dains's peal differs only very slightly from Mr. Sottanstall's 5120.

5088

23456	M	B	W	H	23456	M	B	W	H
36452	1			2	36452	1			2
62453	1			2	62453	1			2
26354	2			2	26354	2			2
65243		–			23564			1	2
65432		–		1	34562	1			2
34562	1	–		2	42563	1			2
42563	1			2	24365	2			2
23564	1			2	63425			2	2
32465	2			2	64235			1	2
64235			2	2	62345			1	2
62345			1	2	65243		–	1	1
63425			1	2	54632		–		
35426	1			2	35426		–		2
24536			2	2	24536			2	2
25346			1	2	25346			1	2
23456			1	2	23456			1	2

T. DAY.

5120

23456	M	B	W	H	23456	M	B	W	H
36452	1			2	36452	1			2
34562			1	2	62453	1			2
42563	1			2	26354	2			2
23564	1			2	52643		–		2
32465	2			2	45236		–		2
64235			2	2	54632	2			2
62345			1	2	35426		–		2
63425			1	2	23564		–		2
26354		–		2	34562	1			2
52643		–		2	42563	1			2
46253			2	2	24365	2			2
54632		–		2	63425			2	2
35426		–		2	64235			1	2
24536			2	2	62345			1	2
25346			1	2	25346	1			2
23456			1	2	23456			1	2

W. SOTTANSTALL.

5120

23456	M	B	W	H	23456	M	B	W	H
36452	1			2	54326			2	2
53624		–		2	53246			1	2
26354			2	2	52436			1	2
23564			1	2	26435	1			2
34562	1			2	62534	2			2
42563	1			2	36245		–		2
24365	2			2	32465			1	2
63425			2	2	25463	1			2
64235			1	2	53462	1			2
62345			1	2	35264	2			2
46253		–		2	63542		–		2
54632		–		2	46325		–		2
35426		–		2	24653		–		2
24536			2	2	43652	1			2
25346			1	2	32654	1			2
23456			1	2	23456	2			2

H. DAINS.

5280

23456	M	B	W	H	23456	M	B	W	H
24536	1	–	2	2	24536	1	–	2	2
25346			1	2	35426	1	–		2
42563		–		2	53624	2			2
23564	1			2	26354			2	2
34562	1			2	52643		–		2
43265	2			2	25346		–	1	2
62345			2	2	42563		–		2
63425			1	2	23564	1			2
64235			1	2	34562	1			2
36452		–		2	43265	2			
54632	1	–		2	62345			2	2
35426		–		2	63425			1	2
53624	2			2	64235			1	2
26354			2	2	36452		–		2
62453		–	1	2	62453	1			2
23456	2	–	1	2	23456	2	–	1	2

N. J. PITSTOW,

5248

23456	M	B	W	H	23456	M	B	W	H
52364		–		2	32654		–	1	2
25463	2			2	24653	1			2
53462	1			2	43652	1			2
42635	2	–	2	2	56342	1	–		2
46325			1	2	53462			1	2
24653		–		2	32465	2	–	1	2
43652	1			2	45623	1		1	2
32654	1			2	54326		–	1	2
56234	1	–		2	53246			1	2
24365	1		1	2	52436			1	2
23645	1	–	2	2	35264		–		2
35642	1			2	54263	1			2
53246		–	1	2	23645	2	–	2	2
52436			1	2	26435			1	2
54326			1	2	34625			2	2
23456	1	–		2	23456		–		2

N. J. PITSTOW.

*5376

23456	M	B	W	H	23456	M	B	W	H
52364		–		2	36452	2	–	1	2
25463		–	1	2	62453	1			2
53462	2	–	1	2	26354	2			2
32465	1			2	52643		–		2
34625			1	2	25346	2			2
26435	1	–		2	43526	1	–		2
56342	1		2	1	45236			1	2
62345	1			2	34562	2		2	2
46253	2		2	2	56342			1	1
63254	1			2	25463	2		1	2
36452		–	1	2	52364		–	1	2
54632			2	2	24365	1			2
35426		–		2	23645			1	2
24536			2	2	26435	1	–	2	2
25346			1	2	34625	1	–		2
23456	1	–	2	2	23456		–		2

L. CAWOOD.

Peals in seventeen courses.

†6016

23456	M	B	W	H	23456	M	B	W	H
62534	2		1	2	46532	1	–	1	2
35264			2	2	52364	2	–	2	2
53462	2			2	25463	2			2
64352	1	–		2	53462	1			2
32546	1		1	2	42635	1	–	1	2
35426	1	–	2	2	24536	2			2
24536			2	2	35426			2	2
32465		–		2	53624	2			2
53624	2		1	2	24365	1		2	2
26354			2	2	62453		–		2
62453	2			2	26354	2			2
54263			2	2	64352	2	–	1	2
23645	1		1	2	32546	1		1	2
26435			1	2	23645		–	1	2
34625			2	2	46325			2	2
65243	2	–	2	2	64523	2			2
23456	1		1	2	23456	1		2	2

S. MARSH.

‡6016

23456	M	B	W	H	23456	M	B	W	H
36452	1			2	52364		–		2
42563	1		1	2	24365	1			2
23564	1			2	35642	1		1	2
34562	1			2	62453	1		1	2
23645	2		1	2	26354	2			2
26435	1	–	2	2	64352	1			2
32654	2		2	2	56423	2		2	2
24653	2	–	1	2	25634	2		2	2
56423	1	–		2	52436		–	1	2
25634	2		2	2	54326	1	–	2	2
32546	2		2	2	25463	2		2	2
35426			1	2	53462	2	–	1	2
24536			2	2	62345	1		2	2
56342	1		1	2	63425			1	2
32465	1		1	2	64235			1	2
34625			1	2	25346	1		1	2
23456		–		2	23456			1	2

W. HARRISON.

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* First rung on December 7th, 1878, by the Yorkshire Association, at All Saints', Otley. Conducted by its Composer.

† Rung at West Bromwich, on August 24th, 1845. Conducted by its Composer.

‡ First rung on December 20th, 1876, by the Yorkshire Association, at St. Matthew's, Holbeck. Conducted by Jasper W. Snowdon.

If the ninth course of Mr. Harrison's foregoing 6016 is called 2 W. 2 H., it runs to 6048; if the second course is called 2 M. 1 B. 2 W. 2 H., to 6080, and if the second and ninth courses are both called in the manner described the peal will be 6112. In the 6048 given below, if the eleventh course is called 2 W. 2 H., it will run to 6080 changes.

6016

23456	M	B	W	H	23456	M	B	W	H
54326	1	–		2	36452	1			2
25463	2		2	2	23564	2		1	2
32654	2		1	2	54632	1		1	2
24653	2	–	1	2	62345	1		1	2
63542	1		1	2	63425			1	2
65432			1	2	25346	1		2	2
52436	1			2	42563		–		2
36245	1		2	2	24365	2			2
32465	1	–	2	2	45362	2	–	1	2
64235			2	2	24653	2		1	2
36452		–		2	26543			1	2
23564	2		1	2	63542	1			2
34562	1			2	52436	1		1	2
52643	1		1	2	54326	1	–	2	2
63425	1		1	2	26435	1		2	2
25346	1		2	2	32654	2		2	2
23456			1	2	23456		–	1	2

S. Marsh.

6048

23456	M	B	W	H	23456	M	B	W	H
36452	2	–	1	2	32654	2			2
54632			2	2	36524			1	2
25346	2		1	2	24653	1		2	2
42563		–		2	52436	2		2	2
23564	1			2	54326			1	2
62345	2		2	2	25463		–		2
56423	2		1	2	63542	1		2	2
63425	1			2	36245	2			2
24365			2	2	32465	1	–	2	2
45362	2	–	1	2	23564	2			2
63542	1	–		2	34562	2	–	1	2
26435	2		1	2	63425	2		2	2
32654		–		2	64235			1	2
24653	1			2	36452		–		2
52436	2		2	2	52643	1		2	2
54326	1	–	2	2	25346		–	1	2
23456			2	2	23456	1	–	2	2

W. Harrison.

6176

23456	M	B	W	H	23456	M	B	W	H
46532	2	–	2	2	24536			1	2
52364	1		1	2	56342	1		1	2
25463	2			2	32465	1		1	2
53462	1			2	25463	1			2
62345	2	–		2	43652	2	–	2	2
63425	1	–	2	2	32654	1			2
26354	2		2	2	36524	1	–	2	2
64352	2	–	1	2	24653	2	–		2
52436	1		2	2	32546	2		1	2
65324		–	2	2	35426	1	–	2	2
54326	2	–	1	2	23564	2		2	2
53246			1	2	34562	2	–	1	2
26435	2	–	2	2	23645		–	2	2
24365			1	2	26435			1	2
35642	1		1	2	34625			2	2
62453	1		1	2	65243	1		1	2
23456	1			2	23456	2	–	2	2

W. Harrison.

Peals in eighteen and nineteen courses.

The following peals contain, respectively, eighteen and nineteen courses. he ninth course of the 6176 be called 1 M. 1 B. 2 W. 2 H., it goes changes.

6016

56	M	B	W	H	23456	M	B	W	H
52	1			2	36452	1			2
53	1			2	62453	1			2
54	2			2	26354	2			2
64			1	2	52643		–		2
62	2	–	1	2	56423			1	2
63	1			2	56234	2		2	1
65	2			2	65432	2			2
25			2	2	34562	1	–		2
35			1	2	42563	1			2
45			1	2	23564	1			2
43		–	1	2	32465	2			2
23			2	1	64235			2	2
34	2		2	2	62345			1	2
32	1			2	63425	1	–	2	2
26		–		2	35426	1			2
36			2	2	24536			2	2
46			1	2	25346			1	2
56			1	2	23456			1	2

W. SOTTANSTALL.

6176

23456	M	B	W	H	23456	M	B	W	H
52364		–		2	52364		–		2
65243		–		2	25463	2			2
42563			2	2	62534		–		2
64235		–		2	36245		–		2
36452		–		2	65243	1			2
53624		–		2	62453	1	–	2	2
34625	2	–	1	2	64523	1	–	2	2
45623	2	–	1	2	26435		–		2
46253			1	2	32654		–		2
54632		–		2	53246		–		2
35426		–		2	35642	2			2
24536			2	2	43526		–		2
32465		–		2	24365		–		2
63254		–		2	45362	2	–	1	2
56342		–		2	43652	1	–	2	2
53462	1	–	2	2	24536		–	2	2
62345	2	–		2	46532	2	–	1	2
25346	2	–	1	2	34625		–		2
23456	1	–	2	2	23456		–		2

W. HARRISON.

als with the fifth and sixth more than four courses each way.

In the foregoing peals the fifth and sixth bells are in fifth's and sixth's es, at four course-ends only. Mr. T. Lockwood, however, hit upon the of bringing them up more than that number of course-ends, and com- ed the following peal of 5056 changes, in the original of which it will be that the sixth is *five* course-ends each way, and the fifth five in fifth's four in sixth's. This peal, I may mention, was composed one morning, mpany made up during the day, and rung in the evening. Mr. Lockwood's o, and Mr. Pitstow's 5184 which has subsequently been composed on Mr. kwood's plan, have each the fifth and sixth more than the usual four rse-ends each way.

* 5056

23456	M	B	W	H	23456	M	B	W	H
35264		–			36452	2	–	1	2
53462		–	1	2	34562			1	2
52364	2			1	42563	1			2
25463		–	1	2	64235		–		2
24653			1	2	62345			1	2
43652	1			2	25346	1			2
54326		–		2	35426	1	–		1
53246			1	2	24536			2	2
36245	1			2	43526	1	–		
32465	1	–	2	2	32465		–		
34625	1	–	2	2	23564		–	1	2
26435	1	–		2	24365	2			1
32654		–		2	63425			2	2
34256	2			1	26354		–		2
52436			2	2	62453		–	1	2
23456	1	–			23456	2	–	1	2

T. Lockwood.

† 5120

23456	M	B	W	H	23456	M	B	W	H
52364		–		2	32654		–	1	2
54263	2			1	24653	2	–	1	2
45362		–	1	2	43652	1			2
25463		–	1		54326		–		2
62534		–		2	53246			1	2
26435		–	1	2	52436	1	–	2	2
24365			1	2	35264		–		2
23645	1	–	2	2	53462		–	1	2
46325	1	–		2	32465	2	–	1	2
24653		–		2	25463	1			2
43652	2	–	1	2	64523	1	–		2
32654	1			2	42635		–		
53246		–		2	36245	1	–		2
52436			1	2	26435	1	–		1
54326	1	–	2	2	34625			2	2
23456	1	–		2	23456		–		2

T. Lockwood.

5184

23456	M	B	W	H	23456	M	B	W	H
54326			2	2	54326			2	2
53246			1	2	53246			1	2
52436			1	2	52436			1	2
35264		–		2	26435	1			2
56342		–			45362	2	–	2	2
32465	1		1	2	52364	1			2
34625	1	–	2	2	34625	2	–	2	2
42356		–			42356		–		
54263		–		2	54263		–		2
23645	2	–	2	2	43265	2	–	1	2
26435			1	2	62534	1		1	
45362	2	–	2	2	36245		–		2
43652			1	2	43652		–		2
32654	1			2	32654	1			2
24653	1			2	24653	1			2
23456	2			1	23456	2			1

N. J. Pitstow.

* First rung on August 13th, 1877, by the Yorkshire Association, at St. Matthew's Holbeck; being the first ever rung on the plan. Conducted by its Composer.

† First rung on September 8th, 1877, by the Yorkshire Association, at All Saints', Ilkley. Conducted by its Composer.

One-part peals with the sixth the extent each way in 5-6.

Peals that have the sixth the extent each way in 5-6 are very numerous and of great variety. I purpose, therefore, to divide them into classes according to the number of course-ends that the sixth is at home; these numbers range from four to eight. Before proceeding to the ordinary peals that have the sixth four course-ends each way, I will give those that have also the sixth in all positions, and arrange them according to the number of courses in which they are contained.

Peals with the sixth the extent in all positions.

In thirteen courses.

* 5024

23456	M	B	W	H	23456	M	B	W	H
65432	2	–	2	1	36452	2	–	1	2
56234	2			2	46532			2	1
52364	1	–	2	2	52364	2	–	2	2
24365	2	–	1	2	24365	2	–	1	2
63542	2	–	2		63542	2	–	2	
52436	2	–	2	2	52436	2	–	2	2
54326	1	–	2	2	54326	1	–	2	2
36245	2	–	2	2	36245	2	–	2	2
25463	2	–	2	2	25463	2	–	2	2
53462	2	–	1	2	53462	2	–	1	2
64235	2	–	2		64235	2	–	2	
25346	2	–	2	2	25346	2	–	2	2
23456	1	–	2	2	23456	1	–	2	2

S. Marsh.

† 5024

23456	M	B	W	H	23456	M	B	W	H
52364	2		2	2	52364	2		2	2
25463	2			2	24365	2	–	1	2
53462	2	–	1	2	65432	2	–		2
26435	2	–	2	1	36524	2		2	2
24365	1	–	2	2	36245	2		2	1
63542	2	–	2		25463	2	–	2	2
52436	2	–	2	2	53462	2	–	1	2
54326	1	–	2	2	64235	2	–	2	
62345	2	–	2	1	25346	2	–	2	2
46253	2		2	2	63542	2	–	1	1
54632	2		2	2	52436	2	–	2	2
25346		–	2	2	54326	1	–	2	2
23456	1	–	2	2	23456			2	2

W. Sottanstall.

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* First rung on February 12th, 1876, by the Yorkshire Association, at All Souls', Bingley. Conducted by Tom Lockwood.

† First rung at St. Mary's, Elland, Yorkshire, in February, 1828. Conducted by its Composer.

In fourteen courses.

* 5024

23456	M	B	W	H
52364	2		2	2
25463	2			2
53462	2	–	1	2
62345	2	–		2
56423	2		1	2
34625	1			1
26435			2	2
24365	1	–	2	2
54632	2	–		1
25346		–	2	2
63542	1			1
52436	2	–	2	2
54326	1	–	2	2
23456			2	2

23456	M	B	W	H
52364	2		2	2
25463	2			2
53462	2	–	1	2
26435	2	–	2	1
24365			1	2
54632	2	–		1
25346		–	2	2
56342	2	–	1	2
52643	2			1
56423			1	2
23645	1		2	2
52436		–	2	2
54326	1	–	2	2
23456			2	2

W. Harrison.

5024

23456	M	B	W	H
52364		–		2
24365	2	–	1	2
63542	2	–	2	
52436	2	–	2	2
54326	1	–	2	2
46325	2	–	1	2
36245			2	1
25463	1		1	2
53462	2	–	1	2
26435	2	–	2	1
26354		–		1
54632	1		2	2
25346		–	2	2
23456	1	–	2	2

23456	M	B	W	H
52364		–		2
24365	2	–	1	2
65432	2	–		2
63254	2		1	1
63542		–		1
52436	2	–	2	2
54326	1	–	2	2
62345	1		1	1
26543	2			2
25463	1	–	2	2
53462	2	–	1	2
64235	2	–	2	
25346	2	–	2	2
23456	1	–	2	2

S. Marsh.

In fifteen courses.

5088

23456	M	B	W	H
52364		–		2
24365	2	–	1	2
56342	2	–	2	1
56423		–		1
23645	1		2	2
52436		–	2	2
54326	1	–	2	2
25463		–		2
53462	2	–	1	2
26435	2	–	2	1
26354		–		1
43652	1			1
54632	1	–	2	
25346		–	2	2
23456	1	–	2	2

23456	M	B	W	H
52364		–		2
24365	2	–	1	2
46532	2	–		
25634	2	–	1	1
63254			1	1
63542		–		1
52436	2	–	2	2
54326	1	–	2	2
25463		–		2
53462	2	–	1	2
62345	2	–		2
64523	2		1	1
64235		–		1
25346	2	–	2	2
23456	1	–	2	2

S. Marsh.

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* First rung on June 30th, 1877, by the Yorkshire Association, at All Saints', Ilkley. Conducted by Jasper W. Snowdon.

Peals with the sixth four course-ends each way in 5-6.

In thirteen courses.

*5024

23456	M	B	W	H
52364	2		2	2
25463	2			2
24653	1	–	2	2
63542	2	–	2	2
32546	2	–	1	2
45236			2	2
26354	2	–	2	2
34562	2	–	2	2
43265	2			2
42635	1	–	2	2
65324	2	–	2	2
54326	2	–	1	2
23456			2	2

W. SOTTANSTALL.

5056

23456	M	B	W	H	23456	M	B	W	H
52364	2		2	2	52364	2		2	2
24365	2	–	1	2	24365	2	–	1	2
62453	2		2	2	65432	1		2	2
56234	2		2	2	52436	2	–	1	2
56342	2		2	1	54326	1	–	2	2
23645	2	–	1	1	25463	2		2	2
52436		–	2	2	53462	2	–	1	2
54326	1	–	2	2	23645	2	–		1
25463	2		2	2	64235	1	–	2	1
53462	2	–	1	2	36452	2		2	2
54632	1	–	2	2	53624	2		2	2
25346	2		1	2	25346	2		2	2
23456	1	–	2	2	23456	1	–	2	2

J. REEVES.

5088

23456	M	B	W	H	23456	M	B	W	H
52364	2		2	2	52364	2		2	2
53624			1	2	24365	2	–	1	2
56234	1	–	2	2	23645	1	–	2	2
24365	2	–	2	2	65432	2	–	2	2
24653	2		2	1	52436	2	–	1	2
52436	2		2	2	54326	1	–	2	2
54326	1	–	2	2	25463	2		2	2
25463	2		2	2	53462	2	–	1	2
53462	2	–	1	2	53624	2		2	1
54632	1	–	2	2	25346	2		2	2
62345	2	–	2	2	36452	2	–	2	2
25346	2	–	1	2	62453	2	–	1	2
23456	1	–	2	2	23456	1			2

J. REEVES.

5152

23456	M	B	W	H	23456	M	B	W	H
46532	2	–	2	2	46532	2	–	2	2
52364	2	–	2	2	52364	2	–	2	2
24365	2	–	1	2	24365	2	–	1	2
63542	2	–	2		23645	1	–	2	2
46325	2		2	2	52436	2		1	2
24653	2		2	2	54326	1	–	2	2
52436	2		2	2	25463	2		2	2
54326	1	–	2	2	53462	2	–	1	2
25463	2		2	2	65324	2		2	2
53462	2	–	1	2	26543	2		2	2
62345	1		2	2	64235	2		2	
25346	2	–	1	2	25346	2	–	2	2
23456	1	–	2	2	23456	1	–	2	2

J. REEVES.

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*Reverses to the same peal. First rung on April 20th, 1847, at Liversedge. Conducted by James Firth.

In fourteen courses.

5024

23456	M	B	W	H	23456	M	B	W	H
56342	2	–		2	52364	2		2	2
45623	2		2	2	45623	2		1	2
54326	2			2	53624	1			2
46325	1			2	25346		–		2
54263	2		1	2	46532	1		2	2
65432		–		2	45362			1	2
64352			1	2	63542			2	2
52436	1		2	2	46325	2		2	2
35264	2		2	2	54263		–	2	2
53462	2			2	43265	2	–	1	2
32465	2	–	1	2	64352		–		2
53624	2		1	2	52436	1		2	2
25346		–		2	54326	1	–	2	2
23456	1	–	2	2	23456			2	2

J. LOCKWOOD.

5024

23456	M	B	W	H	23456	M	B	W	H
36452	2	–	1	2	54326			2	2
34562	1	–	2	2	53246			1	2
42563	1			2	52436			1	2
23564	1			2	26435	2	–	1	2
32465	2			2	24365	1	–	2	2
34625			1	2	23645	1	–	2	2
45623	2	–	1	2	45362	1		2	2
53624	1			2	43652	1	–	2	2
35426	2			2	52364	1		2	2
24536			2	2	25463	2			2
62345	2		1	2	64523			2	2
25346	2	–	1	2	65243			1	2
62453	2		1	2	62453	1	–	2	2
23456	2	–	1	2	23456	1			2

W. SOTTANSTALL.

5056

23456	M	B	W	H	23456	M	B	W	H
52364	2		2	2	52364	2		2	2
24365	2	–	1	2	24365	2	–	1	2
62453	2		2	2	56342	1		1	1
26354	2			2	56423		–		1
64352	1			2	23645	1		2	2
52436	1		2	2	52436	2		1	2
54326	1	–	2	2	54326	1	–	2	2
25463		–		2	25463		–		2
53462	2	–	1	2	53462	2	–	1	2
62345	1		2	2	25634	2		1	2
64523	2		1	1	26354			1	2
64235		–		1	53624			2	2
25346	1		1	2	25346	2		2	2
23456	1	–	2	2	23456	1	–	2	2

F. PITSTOW

5184

23456	M	B	W	H	23456	M	B	W	H
36452	1			2	36452	2	–	1	2
63254	2			2	46532			2	1
52364			2	2	52364	2	–	2	2
24365	2	–	1	2	24365	2	–	1	2
65432	2	–		2	23645	1	–	2	2
52436	2	–	1	2	52436		–	2	2
54326	1	–	2	2	54326	1	–	2	2
62345	2	–	2	1	45623	2			2
26543	2			2	26543			2	2
25463	1	–	2	2	25463			1	2
53462	2	–	1	2	53462	2	–	1	2
64235	2	–	2		64235	2	–	2	
25346	2	–	2	2	25346	2	–	2	2
23456	1	–	2	2	23456	1	–	2	2

J. BARKER.

5184

23456	M	B	W	H	23456	M	B	W	H
52364	2		2	2	52364	2		2	2
25463		–	1	2	24365	2	–	1	2
53462	2	–	1	2	45362	1			2
32465	2	–	1	2	54263	2			2
34625	1	–	2	2	24653			2	1
62345	1	–	2	1	63542	2	–	2	2
46253	2		2	2	65432			1	2
54632	2		2	2	36524	2		2	2
42635	1			2	36245	2		2	1
53624	2	–	2	1	65243	2	–	1	2
35426	2			2	53246	2	–	1	2
24536			2	2	52436	1	–	2	2
25346			1	2	54326	1	–	2	2
23456	1	–	2	2	23456	1	–		2

J. REEVES.

In fifteen courses.

In the peal of Mr. Haigh's, that follows, the ten last courses are the same as Mr. Day's 5088, in sixteen courses, with the fifth and sixth the extent. This peal can be varied in many ways: for instance, if the alternative calling be used in the fifth course, it will run to 5056 changes; if it be used in the first, fifth, and eleventh courses, to 5184. Mr. Sottanstall's 5024 can also be varied in a similar manner; thus, the alternative calling can be used in the twelfth and fourteenth courses, when the peal will be the same length, but if it is used in the sixth, seventh, and fourteenth courses, it will be 5184.

5024

23456	M	B	W	H	23456	M	B	W	H
46532	1		1	2	36452	1			2
35642			2	2	62453	1			2
52643	1			2	26354	2			2
46253			2	2	23564			1	2
34562		–	2	2	34562	1			2
42563	1			2	42563	1			2
23564	1			2	24365	2			2
32465	2			2	63425			2	2
64235			2	2	64235			1	2
62345			1	2	62345			1	2
63425			1	2	45236	2	–		2
35426	1			2	54632	2			2
24536			2	2	56342			1	2
25346			1	2	65243	2			2
23456			1	2	23456	1		1	2

T. HAIGH.

5024

23456	M	B	W	H	23456	M	B	W	H
52364		–		2	52364		–		2
24365	2	–	1	2	25463		–	1	2
45362	1			2	53462	1			2
54263	2			2	32465	1			2
62453			2	2	34625	1	–	2	2
36524		–	2	2	36245	1	–	2	2
64523	1			2	43652		–		2
26435		–		2	56342			2	2
62534	2			2	45623		–		2
36245		–		2	46253			1	2
65243	2	–	1	2	53624	2	–		2
53246	2	–	1	2	35426	2			2
52436			1	2	24536			2	2
54326			1	2	25346			1	2
23456	1	–		2	23456	1	–	2	2

W. SOTTANSTALL.

Use the alternative calling in the fourteenth course of the 5024, by Mr. Sottanstall, which follows, and the number will be 5088.

5024

23456	M	B	W	H	23456	M	B	W	H
36452	2	–	1	2	64352	1			1
46532	1	–		1	46253		–	1	2
45362			1	2	42563	1	–	2	2
52364	2	–	1	2	23564	1			2
24365	1			2	32465		–	1	2
42563	2			2	34625			1	2
64235		–		2	36245	1	–	2	2
45236	2	–	1	2	65243	1			2
56234	1			2	56342		–	1	2
32654	1	–		2	53462			1	2
36524			1	2	54632	1	–	2	2
64523	2	–	1	2	35426		–		2
43526	1			2	24536			2	2
25346	1	–		2	25346			1	2
23456			1	2	23456	1	–	2	2

J. Cox.

5024

23456	M	B	W	H	23456	M	B	W	H
52364		–		2	52364		–		2
25463		–	1	2	25463		–	1	2
53462	2	–	1	2	53462	1			2
32465	2	–	1	2	32465	2	–	1	2
64235	1	–		2	26435	1	–		
46532		–	1	2	32654		–		2
62534	2	–	1	2	64523	2	–	2	2
36245		–		2	36245		–	2	2
45623	2	–		2	43652		–		2
63254	2	–	2	2	46532	1	–	2	2
35642		–			35642	1	–		2
53246		–	1	2	53246		–	1	2
52436	1	–	2	2	52436	1	–	2	2
54326			1	2	54326	1	–	2	2
23456	1	–		2	23456	1	–		2

W. SOTTANSTALL.

5024

23456	M	W	H	23456	M	W	H
52364	2	2	2	52364	2	2	2
45623	2	1	2	24365	1		2
32654	1	1	1	45362	1		2
54263	1	2	2	54263	2		2
26543		1	1	24653		2	1
53462	1	1	2	56342	1	1	
26435	1	1	1	62345	1		2
24365		1	2	25346	1		2
23645		1	2	63542	1		1
42635		1		52436	1	1	2
53624	1	1	1	63425	1	1	1
35426	2		2	35426	1		2
24536		2	2	32654	2	1	1
25346		1	2	64523	1	1	2
23456		1	2	23456	1	2	2

J. REEVES.

*5056

23456	M	B	W	H	23456	M	B	W	H
56342	2	–		2	36452	2	–	1	2
53462	1	–	2	2	23564		–	2	2
54632	1	–	2	2	62345	2		2	2
35426		–		2	25346	1			2
23564		–		2	42563		–		2
25634			1	2	64235		–		2
26354	1	–	2	2	45236	1			2
53624	1	–		2	34562	2		2	2
25346		–		2	63425		–		2
42563	2		2	2	36524		–	1	2
45623			1	2	64523	2	–	1	2
24536		–		2	43526	1			2
32465		–		2	24365		–		2
34625			1	2	62453		–		2
23456	2		2	2	23456	2	–	1	2

H. HUBBARD.

In the foregoing 5056 of Mr. Hubbard's, the sixth is alternately wrong and right with the same bell. If the alternative calling be used in the first course of this peal, it will run to 5088. The following 5056 of Mr. Hubbard's

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[*] First rung in 1857, as 5088, at Earlsheaton. Conducted by Wm. Preston.

can also be varied in several ways; for instance, if the fourth course be varied, the number of changes will be 5024; but if the twelfth course be varied, it will be 5120. Mr Dains's peal, like the preceding one by Mr. Haigh, has the last ten course-ends as Mr. Day's 5088, but differs slightly in the first five courses; in the reverse, this peal is altered to show how it may be varied to run to 5088 changes.

† 5056

23456	M	B	W	H	23456	M	B	W	H
52364		–		2	52364		–		2
24365	2	–	1	2	25463		–	1	2
45362	1			2	53462	2	–	1	2
54263	2			2	32465	2	–	1	2
65432		–		2	34625			1	2
56234	2			2	26435	1	–		2
32654	1	–		2	62534		–	1	2
24653	1			2	65324	1	–	2	2
43652	2	–	1	2	63254			1	2
56342	1	–		2	36452		–	1	2
65243		–	1	2	54632			2	2
53246	1			2	35426		–		2
52436	1	–	2	2	24536			2	2
54326	1	–	2	2	25346			1	2
23456	1	–		2	23456	1	–	2	2

H. HUBBARD.

5056

23456	M	B	W	H
36452	1			2
52643	2	–		2
56423			1	2
25634	2		2	2
34562	2	–		2
42563	1			2
23564	1			2
32465	2			2
64235			2	2
62345			1	2
63425			1	2
35426	1			2
24536			2	2
25346			1	2
23456			1	2

5088

23456	M	B	W	H
62534	2		1	2
36245	2		2	2
65243	1			2
36452		–	2	2
34562			1	2
42563	1			2
23564	1			2
32465	2			2
34625			1	2
45623	1			2
53624	1			2
35426	2			2
24536			2	2
25346			1	2
23456			1	2

H. DAINS.

5056

23456	M	B	W	H	23456	M	B	W	H
56342	1		2	2	46532	2	–	2	2
32465	2	–	2	2	24365	2		1	2
23564		–	1	2	45362	1			2
34562	2	–	1	2	52364	1			2
42563	1			2	25463	2			2
65243	1	–		2	25634		–		1
62453			1	2	36524			2	2
26354	2			2	64523	1			2
53624	1	–		2	46325		–	1	2
56234			1	2	23645			2	2
54632	2			1	35642	1			2
35426		–		2	53246		–	1	2
24536			2	2	52436			1	2
25346			1	2	54326	1	–	2	2
23456			1	2	23456	1	–		2

L. CAWOOD.

5088

23456	M	B	W	H	23456	M	B	W	H
52364	2		2	2	52364	2		2	2
24365	1			2	25463		–	1	2
45362	1			2	53462	2	–	1	2
54263	2			2	32465	1			2
62453			2	2	64235			2	2
26354	2			2	23645			1	1
53624			2	2	35642	1			2
56234			1	2	36452			1	2
64235	1			2	62453	1			2
23645			1	1	26354	2			2
35642	1			2	53624			2	2
53246	2			2	35426	2			2
52436			1	2	24536			2	2
54326	1	–	2	2	25346			1	2
23456	1	–		2	23456			1	2

D. WOODS.

† First rung in 1853, at Birstall. Conducted by W. Goodall.

5120

23456	M	W	H	23456	M	W	H
63542	1	2	1	32654	2		2
26435	2	1	2	56234		2	2
34625		2	2	54632	2		1
52643	1	1	1	62345	1	1	2
46253		2	2	26543	2		2
64352	2		2	36452	1	2	1
53462		2	2	23564	2	1	2
32465	1		2	34562	1		2
25463	1		2	42563	1		2
52364	2		2	24365	2		2
53624		1	2	63425		2	2
35426	2		2	35426	1		2
24536		2	2	24536		2	2
25346		1	2	25346		1	2
23456		1	2	23456		1	2

UNKNOWN.

5152

23456	M	W	H	23456	M	W	H
52364	2	2	2	52364	2	2	2
52643	2	2	1	24365	1		2
62453		2	1	45362	1		2
54263		2	2	54263	2		2
46253		2		52643		1	2
54632	2	2	2	25346	2		2
64352		2	1	63542	1		1
53462		2	2	52436	1	1	2
26435	1	1	1	56234	2		1
24365		1	2	65432	2		2
63425		2	2	53624	2	2	
35426	1		2	35426	2		2
24536		2	2	36524	2		1
25346		1	2	34625	2		1
23456		1	2	23456	2	2	2

J. REEVES.

Fifteen-course peals (continued).

5216

23456	M	W	H	23456	M	W	H
56342	1	2	2	36452	1		2
45623	2	2	2	63254	2		2
53624	1		2	62534		1	2
26354		2	2	36245	2	2	2
23564		1	2	53462	2	1	2
34562	1		2	54632		1	2
42563	1		2	32465	1	2	2
24365	2		2	34625		1	2
63425		2	2	25463	1	2	2
35426	1		2	52364	2		2
24536		2	2	53624		1	2
62345	2	1	2	35426	2		2
25346	1		2	24536		2	2
62453	2	1	2	25346		1	2
23456	1		2	23456		1	2

W. SOTTANSTALL.

In sixteen courses.

5344

23456	M	W	H	23456	M	W	H
52364	2	2	2	52364	2	2	2
24365	1		2	24365	1		2
42563	2		2	45362	1		2
26543		2		54263	2		2
53462	1	1	2	26543		1	1
62345	1	2	2	35642	1		1
45623	2	1		65432		2	1
32654	1	1	1	65324	2	2	1
46253	1		1	32654		1	1
46532	2	2	1	56423	1	1	
42635	2		1	23645	1	2	2
63425		1	1	52436	2	1	2
35426	1		2	34625	1	1	
24536		2	2	43526	2		2
25346		1	2	25346		2	2
23456		1	2	23456		1	2

J. REEVES.

Peals with the sixth five course-ends each way in 5-6.

)f this class the following 5024 is in fifteen courses, the other peals are :teen.

5024

6	M	B	W	H	23456	M	B	W	H
2	2	–	2	2	25634	2		1	1
4	2	–	1	1	26354	1	–	2	2
2	1		2	2	34562	2	–	2	2
5		–	1		24365		–	1	
3		–	1	2	42563		–	1	2
5		–	1	1	43265	2			1
4	1			2	35264	1			2
3	1		1	2	24653	1		1	2
3	1	–	2	2	26543	1	–	2	2
2	2	–	1	2	63542	2	–	1	2
6	1		1	2	52436	1		1	2
6			1	1	43526			1	1
6			2	2	25346	1	–		2
6	1	–			54326	1	–		
6	1	–		2	23456	1	–		2

W. HARRISON.

5056

23456	M	B	W	H	23456	M	B	W	H
46532	2	–	2	2	32654	2			2
56342	1	–		1	62534	1	–		1
65243		–	1	2	26435		–	1	2
54263			2		45362	2	–	2	2
45362		–	1	2	25463		–	1	
42563	2			1	52364		–	1	2
23564	1			2	54263	2			1
32465		–	1	2	43265	2	–	1	2
46325			1	1	65432		–	2	
36245			2	1	65324		–		1
64352		–			64523	2			1
52436	2	–		2	43526	1			2
43526	1	–	2	1	25346	1	–		2
25346			2	2	34256			1	1
54326	1	–			52436			2	2
23456	1	–		2	23456	1	–		

W. HARRISON.

5056

6	M	B	W	H	23456	M	B	W	H
2	2	–	1	2	56234		–	2	
2	1	–		1	35642		–		2
5		–		2	62453	2	–	2	2
3	2	–	2	2	62534		–		1
2		–			26435		–	1	2
5	2	–		1	24365	1	–	2	2
3		–	1	2	53462	1			1
5		–	1		35264		–	1	2
4		–	1	2	45362		–	1	
2	2	–	1	2	54263		–	1	2
2	1	–	2	2	65432		–		2
6		–		2	52436	2	–	1	2
6	1	–			54326	1	–	2	2
6	1	–		2	42356	1	–		
6	1	–		1	53246	1	–		2
6			1	2	23456	1	–		1

W. HARRISON.

5056

23456	M	B	W	H	23456	M	B	W	H
35264		–			23564		–		1
54263	1			2	32465		–	1	2
45362	2			2	52364		–	1	
56423		–			25463		–	1	2
43265	1		1	2	53462	2	–	1	2
52364	2	–	1	1	54632	1	–	2	2
26435	2	–			42635	1			2
62534	2			2	36245			2	2
36245		–		2	43652		–		2
63542	2			2	35642			2	
65432			1	2	34256		–	2	1
52436	2	–	1	2	32546	1	–	2	2
54326	1	–	2	2	45623	1		1	
42356	1	–			24536		–		2
53246	1	–		2	35426			2	2
23456	1	–		1	23456			1	

N. J. PITSTOW.

Peals with the sixth six course-ends each way in 5-6.

The peals that have the sixth six course-ends at home, I propose to divide into two classes, namely, those that have this bell six course-ends *each way* in 5-6, and those with the sixth six course-ends one way and only four or five the other. The following peals are of the former class, and precedence is given to those in which the sixth is six *consecutive* course-ends in each of these positions. Of these peals the first, the 5024 by Mr. Harrison, is contained in sixteen courses; the last, the 5280 by the same composer, in eighteen; and the remainder in seventeen courses each.

5024

23456	M	B	W	H	23456	M	B	W	H
56342	2	–		2	46532	2	–	2	2
43265	2	–	2		32465		–	2	
34562		–	1	2	52364		–	1	
32465		–	1	1	25463		–	1	2
52364		–	1		23564		–	1	1
25463		–	1	2	24365		–	1	1
23564	2			1	45362	2	–	1	2
65324			2	2	63542	1	–		2
46253		–	2	2	36245		–	1	2
52643	1	–		2	45623	2	–		2
25346		–	1	2	43526	2			1
34256	1	–	2	1	25346			2	2
24536	1	–		1	54326	1	–		
35426	1	–		2	34256	1	–		1
52436	1	–			52436	1	–		2
23456	1	–			23456	1	–		

W. Harrison.

* 5024

23456	M	B	W	H	23456	M	B	W	H
56342	2	–		2	63542	1		2	1
36452	1	–		1	63425		–		1
36524		–		1	36524		–	1	2
24365	2		1		43265		–	2	2
42563		–	1	2	52364	2	–	1	1
32465		–	1		54263		–	1	1
23564		–	1	2	45362		–	1	2
43265		–	1		25463		–	1	
34562		–	1	2	35264		–	1	
65432			2	2	56342		–		
53624		–			45623		–		2
32546		–			54326	2			2
24536	1	–			42356	1	–		
35426	1	–		2	53246	1	–		2
45236	1	–		1	34256	1	–		
25346	1	–		1	52436	1	–		2
23456	1	–	2	2	23456	1	–		

W. Harrison.

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* First rung on October 17th, 1876, by the Yorkshire Association, at St. Matthew's, Holbeck. Conducted by Jasper W. Snowdon.

5056

23456	M	B	W	H
56234		–	2	
35642		–		2
54263	2	–		
53462		–	1	1
35264		–	1	2
45362		–	1	
42563		–	1	1
24365		–	1	2
63425	1	–		2
36524		–	1	2
62534	1	–		
54326	2	–	2	2
42356	1	–		
32546	1	–		1
45236	1	–		2
53246	1	–		
23456	1	–		1
62534		–	2	2
23645		–		
53462	2	–		1
23564		–	1	
32465		–	1	2
35264		–	1	1
45362		–	1	
54263		–	1	2
62345	2	–	2	
26543		–	1	2
45623	1	–		2
54326		–	1	2
34256	1	–		1
45236	1	–		
32546	1	–		2
52436	1	–		1
23456	1	–		

W. Harrison.

5056

23456	M	B	W	H
26354		–	1	1
62453		–	1	2
65324		–	2	1
56423		–	1	2
23564	2		1	
32465		–	1	2
35264		–	1	1
45362		–	1	
54263		–	1	2
53462		–	1	1
43652			2	1
54326		–		2
34256	1	–		1
45236	1	–		
32546	1	–		2
52436	1	–		1
23456	1	–		
56342	1		2	2
36452	1	–		1
52643	2	–		2
62453	1	–		1
25463	1	–		
23564		–	1	1
32465		–	1	2
52364		–	1	
54263		–	1	1
45362		–	1	2
45623		–		1
43526	2			1
25346	1	–		2
54326	1	–		
34256	1	–		1
52436	1	–		2
23456	1	–		

H. Dains.

5056

23456	M	B	W	H
63542	1		2	1
36245		–	1	2
32465	1	–	2	2
54263	2	–	1	1
53462		–	1	1
35264		–	1	2
45362		–	1	
25463		–	1	
56234		–		
56342		–		1
45623		–		2
54326	2			2
42356	1	–		
53246	1	–		2
34256	1	–		
52436	1	–		2
23456	1	–		
36452	2	–	1	2
46532	1	–		1
32465	2		1	
23564		–	1	2
43265		–	1	
34562		–	1	2
24365		–	1	
42563		–	1	2
65243			2	2
65432		–		1
53624		–		
32546		–		
24536	1	–		
35426	1	–		2
45236	1	–		1
25346	1	–		1
23456	1	–	2	2

H. Dains.

5088

23456	M	B	W	H
56234		–	2	
64235	2	–	1	2
56342		–	2	2
56423		–		1
23564	2		1	
32465		–	1	2
35264		–	1	1
45362		–	1	
54263		–	1	2
53462		–	1	1
43652			2	1
54326		–		2
34256	1	–		1
45236	1	–		
32546	1	–		2
52436	1	–		1
23456	1	–		
63542	1		2	1
46325		–		2
25634	2	–		2
32654	1	–	2	
25463	2	–		
23564		–	1	1
32465		–	1	2
52364		–	1	
54263		–	1	1
45362		–	1	2
45623		–		1
43526	2			1
25346	1	–		2
54326	1	–		
34256	1	–		1
52436	1	–		2
23456	1	–		

W. Harrison.

5088 *

23456	M	B	W	H	23456	M	B	W	H
52364		–		2	35264		–		
25463		–	1	2	45362		–	1	
53462	2	–	1	2	54263		–	1	2
32465	1			2	53462		–	1	1
64235			2	2	52364		–	1	1
64352		–		1	24365	2	–	1	2
46253		–	1	2	23645	1	–	2	2
63254	2	–	1	2	26435			1	2
56342		–		2	32654		–		2
62345	1			2	36524	1	–	2	2
25346	2	–	1	2	56234	1	–		1
34256	1	–	2	1	35642		–		2
24536	1	–		1	53246	2			2
35426	1	–		2	52436			1	2
52436	1	–			54326	1	–	2	2
23456	1	–			23456	1	–		2

N. J. PITSTOW.

5088

23456	M	B	W	H	23456	M	B	W	H
56342	2	–		2	36452	2	–	1	2
32465	1		1	2	36524		–		1
23564		–	1	2	63425	2			2
53624			2	1	24365	1	–		2
25346		–		2	35642	1		1	2
42356	1	–	2		42356		–	2	
46253	2			1	26354	2	–	1	2
42563			1	2	26543		–		1
52643			2	1	62345	2			2
45236		–		2	53246	1			1
34256	1	–	2		34256			2	
36452	2			1	46253	2	–	1	2
34562			1	2	46532		–		1
54632			2	1	64235	2			2
35426		–		2	52436	1			1
23456	1	–	2		23456			2	

T. LOCKWOOD.

5120

23456	M	B	W	H	23456	M	B	W	H
52364		–		2	35264		–		
25463		–	1	2	53462		–	1	2
62534		–		2	23564		–	1	
36245		–		2	32465		–	1	2
45623	2	–		2	52364		–	1	
53624	2	–	1	2	25463		–	1	2
56234	1	–	2	2	62534		–		2
24365	2	–	2	2	24536	1			2
45362	2	–	1	2	25346	1	–	2	2
43652			1	2	36452	2	–	2	2
54326		–		2	62453	2	–	1	2
42356	1	–			64523	1	–	2	2
53246	1	–		2	36245		–	2	2
34256	1	–			43652		–		2
52436	1	–		2	54326		–		2
23456	1	–			23456	1	–		2

T. LOCKWOOD.

† 6016

23456	M	B	W	H	23456	M	B	W	H
32654		–	1	2	32654		–	1	2
36524			1	2	62534			2	1
43265		–	2	2	36245		–		2
35264	2	–	1	2	32465	1	–	2	2
35642		–		1	65243	2	–		2
53246	2			2	53246	1			2
34256	1	–			34256	1	–		
43652		–	1	2	43652		–	1	2
46532			1	2	63542			2	1
45362	1	–	2	2	46325		–		2
45623		–		1	65324	2	–	1	2
54326	2			2	54326	1			2
42356	1	–			42356	1	–		
24653		–	1	2	24653		–	1	2
26543			1	2	64523			2	1
25463	1	–	2	2	26435		–		2
25634		–		1	65432	2	–	1	2
52436	2			2	52436	1			2
23456	1	–			23456	1	–		

T. LOCKWOOD.

The following 5024 has the sixth five course-ends wrong and six right.

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* First rung on June 21st, 1878, at Long Melford, Suffolk. Conducted by F. Pitstow.

† First rung on July 28th, 1877, by the Yorkshire Association, at St Oswald's, Guiseley. Conducted by its Composer.

* 5024

23456	M	B	W	H	23456	M	B	W	H
46532	1		1	2	63542	2	–		1
56342	1	–		1	36245		–	1	2
25463		–	2	2	42563	1		1	
35264		–	1		24365		–	1	2
53462		–	1	2	54263		–	1	
52364		–	1	1	45362		–	1	2
53624			1	2	25463		–	1	
24365	1		2	2	52364		–	1	2
52643	2		1	2	26354			2	
45623	1	–	2		64352	2	–	1	2
54326	2			2	52436	1		2	2
42356	1	–			65324	2		1	2
53246	1	–		2	43526	1			1
34256	1	–			25346	1	–		2
52436	1	–		2	54326	1	–		
23456	1	–			23456	1	–		2

T. Lockwood.

Peals with the sixth seven course-ends home.

With the sixth seven course-ends home, the extent wrong may be had in four or five courses. In the following peals the sixth is four course-ends wrong. If the alternative calling is used in the sixth course of the second 5024, it runs to 5088.

5024

23456	M	B	W	H	23456	M	B	W	H
52364	2		2	2	23564	2		2	1
24365	2	–	1	2	43265		–	1	
45362	1			2	34562		–	1	2
54263		–	1	2	24365		–	1	
62453			2	2	42563		–	1	2
26354		–	1	2	32465		–	1	
64352	2	–	1	2	52364		–	1	
63542	1	–	2	2	26543		–		
34625		–			42635		–		2
42356		–			25634	2	–	1	2
25346	1	–			26354	1	–	2	2
43526	1	–		2	53624	1	–		2
32546	1	–			35426	2			2
45236	1	–		2	24536	1	–		2
53246	1	–			25346			1	2
23456	1	–		1	23456	1	–	2	2

W. Sottanstall.

† 5024

23456	M	B	W	H	23456	M	B	W	H
46532	2	–	2	2	46532	2	–	2	2
52364	2	–	2	2	23564	2	–	2	1
24365	2	–	1	2	43265		–	1	
62453		–		2	34562		–	1	2
36524		–	2	2	24365		–	1	
54263	1		1	2	42563		–	1	2
45362		–	1	2	32465		–	1	
63542			2	2	52364		–	1	
34625		–			26543		–		
42356		–			42635		–		2
25346	1	–			24536	2			2
43526	1	–		2	35426	1	–		2
32546	1	–			46253	1		1	2
45236	1	–		2	53624	2	–		2
53246	1	–			25346		–		2
23456	1	–		1	23456	1	–	2	2

W. Sottanstall.

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* First rung on October 22nd, 1877, by the Yorkshire Association, at St. Matthew's, Holbeck. Conducted by its Composer.

† First rung on January 28th, 1865, at All Soul's, Haley Hill, Halifax. Conducted by Geo. Clay.

5120

23456	M	B	W	H	23456	M	B	W	H
52364	2		2	2	23564	2		2	1
25463	2			2	43265		–	1	
36452	2	–	2	1	45362		–	1	1
34562	1	–	2	2	54263		–	1	2
63425		–		2	34562		–	1	
56234		–	2	2	32465		–	1	1
24365	1		1	2	52364		–	1	
62453		–		2	45623		–	2	2
64523			1	2	53624	1			2
42356	2	–			25346		–		2
32546	1	–		1	36452	1		1	2
24536	1	–			52643	2	–		2
35426	1	–		2	45236		–		2
45236	1	–		1	62534	2	–	1	1
53246	1	–			54326	2	–	2	2
23456	1	–		1	23456			2	2

W. HARRISON.

5216

23456	M	B	W	H	23456	M	B	W	H
52364		–		2	35264		–		
46325	1		1	1	45362		–	1	
54263		–	2	2	54263		–	1	2
45362	2			2	34562		–	1	
36452	1	–	2	1	43265		–	1	2
62453	2	–	1	2	53462		–	1	
36524		–	2	2	52364		–	1	1
43265		–	2	2	26543		–		
23645	1	–		1	23645		–	1	1
34625	1	–			32546		–	1	2
34256		–		1	46253	2	–		2
45236	1	–			53624	2	–		2
32546	1	–		2	62534	1	–	2	1
24536	1	–			24536	2	–	1	2
35426	1	–		2	35426			2	2
52436	1	–			65243	2	–		1
23456	1	–			23456	1		1	2

W. SOTTANSTALL.

In the following peals the sixth is seven course-ends home and five wrong, precedence being given to those peals wherein the qualities are obtained at consecutive course-ends. If the first course of Mr. Harrison's 5120 be called 2 M. 1 B. 2 W. 1 H., it runs to 5184 changes.

*5056

23456	M	B	W	H	23456	M	B	W	H
63542	2	–		1	36452	2	–	1	2
26435		–	2	2	26543	2	–		1
32465	1	–	2		43265		–	2	
23564		–	1	2	45362		–	1	1
24365		–	1	1	25463		–	1	
45362	1			2	52364		–	1	2
54263		–	1	2	54263		–	1	1
65432		–		2	34562		–	1	
36524		–		2	32465		–	1	1
34625	2			1	32654		–		1
34256		–		1	56234			2	2
45236	1	–			35642		–		2
25346	1	–		1	43526		–		2
43526	1	–		2	25346	1	–		2
32546	1	–			34256			1	1
52436	1	–		1	52436	1	–		2
23456	1	–			23456	1	–		

W. HARRISON.

5120

23456	M	B	W	H	23456	M	B	W	H
65432	1		1	1	46532	2	–	2	2
26354		–	2	2	26354	2	–		1
34562	2	–	2	2	45362	1		1	1
25463	1			1	42563		–	1	1
52364		–	1	2	32465		–	1	
42563		–	1		23564		–	1	2
24365		–	1	2	24365	2			1
36245			1	1	54263		–	1	
26435	1	–		1	34562		–	1	
34625	1	–		2	63425		–		2
42356		–			65324		–	1	1
25346	1	–			64523		–	1	1
35426	1	–		1	43526	1			2
24536			2	2	32546	1	–		
43526	1	–			45236	1	–		2
53246	1	–		1	25346	1	–		1
23456	1	–		1	23456			1	2

W. HARRISON.

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* First rung on December 27th, 1876, by the Yorkshire Association, at St. Matthew's, Holbeck. Conducted by Jasper W. Snowdon.

5120

M	B	W	H	23456	M	B	W	H
2	–	2	1	32654		–	1	2
	–	1	2	36524	1	–	2	2
2	–	1	2	56234	1	–		1
1	–		2	32465	2	–	2	
	–	1	2	35264		–	1	1
2	–	1	1	45362		–	1	
	–	1	2	54263		–	1	2
	–	1		53462		–	1	1
	–		2	23564		–	1	
	–			24365		–	1	1
	–	1	1	46325	1	–		
1	–			24653		–		2
1	–		1	45236		–		
1	–		2	32546	1	–		2
1	–			52436	1	–		1
1	–		1	54326	1	–	2	2
1	–			23456	1	–		2

H. Dains.

5024

23456	M	B	W	H	23456	M	B	W	H
65432	2	–	2	1	56342	2	–		2
62534		–	1	1	36452	1	–		1
26435		–	1	2	46532	1	–		1
52364		–	2	2	23564	2	–	2	1
24365	2	–	1	2	43265		–	1	
46253		–			34562		–	1	2
45362		–	2	1	24365		–	1	
54263		–	1	2	42563		–	1	2
34562		–	1		32465		–	1	
34625		–		1	52364		–	1	
42356		–			52643		–		1
25346	1	–			24536		–		
43526	1	–		2	35426	1	–		2
32546	1	–			45236	1	–		1
45236	1	–		2	53624	2	–		
53246	1	–			25346		–		2
23456	1	–		1	23456	1	–	2	2

H. Dains.

the foregoing 5024, and in the following peals, the sixth, although its W., is not so at five consecutive course-ends ; it will however be seen e feature of the seven consecutive course-ends at which it is the extent till retained. The two previous peals by Mr. Dains, as well as the y Mr. Harrison which follows, have a bob B. in each course.

5056

M	B	W	H	23456	M	B	W	H
	–	1	2	36452	1			2
1		2		46532	1	–		1
2	–	2		63425		–		
	–		1	24536	2	–	2	
	–	1	2	62345	2		1	2
		1	1	24365	1	–		
	–	1	2	54263		–	1	
	–	1		45362		–	1	2
	–	1	2	25463		–	1	
		1	2	52364		–	1	2
	–	2	1	42563		–	1	
1	–			43265		–	1	1
1	–		2	65324	2	–		2
1	–			54326	1			2
1	–		2	42356	1	–		
1	–			53246	1	–		2
1	–			23456	1	–		1

W. Harrison.

5088

23456	M	B	W	H	23456	M	B	W	H
25634		–	2	1	64352	2	–	1	1
34562	2	–		2	52643		–	2	
32465		–	1	1	25346	2			2
25463	2	–	1	2	34256	1	–	2	1
56423			2		52436	1	–		2
36245	2	–		1	53624		–	2	1
43265	1	–	2		32465	2	–		
35264	2	–	1	2	52364		–	1	
56342		–			25463		–	1	2
64523		–			23564		–	1	1
42356	2	–			43265		–	1	
53246	1	–		2	34562		–	1	2
34256	1	–			24365		–	1	
24536	1	–		1	65243		–	2	
35426	1	–		2	54632		–		
52436	1	–			35426		–		2
23456	1	–			23456	1	–	2	

W. Harrison.

5152

23456	M	B	W	H	23456	M	B	W	H
63542	2	–		1	46532	2	–	2	2
26435		–	2	2	35642	1	–		2
52364		–	2	2	43526		–		2
24365	2	–	1	2	45236	1	–	2	2
62453		–		2	36524	2	–		2
26354		–	1	2	46253	2	–		1
45362	2	–	2	1	45362		–	2	1
54263		–	1	2	25463		–	1	
34562		–	1		52364		–	1	2
34625		–		1	42563		–	1	
42356		–			24365		–	1	2
25346	1	–			54263		–	1	
43526	1	–		2	34562		–	1	
32546	1	–			34625		–		1
45236	1	–		2	42356		–		
53246	1	–			53246	1	–		2
23456	1	–		1	23456	1	–		1

W. HARRISON.

* 5184

23456	M	B	W	H	23456	M	B	W	H
52364	2		2	2	64352	2	–	1	1
65243		–		2	32546	1		1	2
36452		–	2	2	52436			2	1
45362	1	–	2	1	26435	2	–	1	2
54263	2			2	35642	2	–		2
36245	1		1	1	43526		–		2
32465	1	–	2	2	43265	2		2	1
26435	1	–			45362		–	1	1
34562	2	–	2		25463		–	1	
34625		–		1	52364		–	1	2
42356		–			54263		–	1	1
25346	1	–			34562		–	1	
35426	1	–		1	24365		–	1	
24536	1	–		2	24653		–		1
43526	1	–			45236		–		
53246	1	–		1	32654	2	–	2	
23456	1	–		1	23456		–	1	2

W. HARRISON.

5216

23456	M	B	W	H	23456	M	B	W	H
56342	2	–		2	36452	2	–	1	2
45362	1	–	2		52364		–	2	
54263	2			2	42563		–	1	
23645	2	–	2	2	43265		–	1	1
53462	1		2	1	34562		–	1	2
56234	2		1	1	24365		–	1	
52364			1	2	25463		–	1	1
26543		–			23564		–	1	1
32465		–	2	2	62345		–		2
34625			1	2	25346	1			2
34256		–		1	54632	2	–		
24536	1	–		1	35426		–		2
43526	1	–			64523	1			1
25346	1	–		2	34256	1		2	1
35426	1	–		1	63542	2		1	2
52436	1	–			52436	2	–	2	2
23456	1	–			23456			2	

W. HARRISON.

5216

23456	M	B	W	H	23456	M	B	W	H
63542	2	–		1	26354	2			1
45362			2	2	54263		–	2	
54263		–	1	2	45362		–	1	2
26543			1	1	25463		–	1	
24365		–	2	1	23564		–	1	1
46325	1	–			32465		–	1	2
35264	2	–	2	2	52364		–	1	
56234	1	–			42563		–	1	
32465	2	–	2		63425		–	2	
64523	2	–	2		24536	2	–	2	
42356	2	–			35642	2	–	2	
25346	1	–			53246		–	1	2
43526	1	–		2	42635	2	–	2	
53246	1	–		1	45236		–	1	1
34256	1	–			65324	2	–		1
52436	1	–		2	54326	1			2
23456	1	–			23456	1	–		2

W. HARRISON.

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* First rung on December 12th, 1876, by the Yorkshire Association, at St. Mary's Hunslet. Conducted by Jasper W. Snowdon.

5248

23456	M	B	W	H	23456	M	B	W	H
46532	2	–	2	2	35642	2	–		
32465		–	2		42356		–	2	
26543	2	–			56234	2	–		2
24365		–	2	1	32465	2	–	2	
63425	1	–		2	23564		–	1	2
36524		–	1	2	43265		–	1	
35264	1	–	2	2	45362		–	1	1
54263	1			2	54263		–	1	2
45362		–	1	2	34562		–	1	
64523		–		2	24365		–	1	
42356	2	–			52643		–	2	2
25346	1	–			45236		–		2
43526	1	–		2	32546	1	–		2
53246	1	–		1	35426			1	2
34256	1	–			56423	2	–	1	2
52436	1	–		2	24653	1	–		2
23456	1	–			23456		–	1	1

W. HARRISON.

Peals with the sixth eight course-ends home.

The following peals, by Mr. Dains, are the first obtained on the plan of sixth eight course-ends home and four wrong.

5152

56	M	B	W	H	23456	M	B	W	H
34		–	2	2	35264	2		2	
25		–	2		56342		–		
56		–			42635	2	–		2
63	2		2	2	23564	2	–		
65	2	–	1	2	43265		–	1	
64	1			2	34562		–	1	2
62		–	1	2	24365		–	1	
24		–		2	42563		–	1	2
23		–	1	2	32465		–	1	
45	2	–		2	52364		–	1	
56		–			65243		–		2
36	1	–			36452		–	2	2
46	1	–		2	54632	1	–		2
36	1	–			35426		–		2
26	1	–		2	24536	1	–		2
36	1	–			25346			1	2
56	1	–			23456	1	–	2	2

H. DAINS.

5152

23456	M	B	W	H	23456	M	B	W	H
64352	2	–	1	1	36452	2	–	1	2
65243		–	2	1	36524		–		1
46532		–		2	46253	2	–		1
45362	1	–	2	2	54263	1	–	2	
52364	2	–	1	2	34562		–	1	
64523		–	2		32465		–	1	1
42356	2	–			23564		–	1	2
54263		–		2	43265		–	1	
43265	2	–	1	2	45362		–	1	1
23645	1	–		1	25463		–	1	
34256		–			25634		–		1
24536	1	–		1	52436		–	1	2
43526	1	–			54326	1	–	2	2
25346	1	–		2	42563		–		
35426	1	–		1	63425		–	2	
52436	1	–			25346	2	–		2
23456	1	–			23456	1	–	2	2

H. DAINS.

If the two first courses of Mr. Dains's 5184 are called 2 M. 1 B. 2 H. and 1 M. 1 B. 2 W. 2 H., it runs to 5216, with a bob B. in each course.

5184

23456	M	B	W	H	23456	M	B	W	H
64352	2	–	1	1	26354	2			1
53462			2	2	52364	1	–	2	
32465	2	–	1	2	54263		–	1	1
56423	2	–	2	1	34562		–	1	
35264		–	2	2	32465		–	1	1
54263	2	–	1	2	46325	1	–	2	1
23645	2	–	2	2	25463		–	2	
25346		–	1	1	23564		–	1	1
54326	1	–			43265		–	1	
34256	1	–		1	45362		–	1	1
45236	1	–			63542	1	–		2
65324	2	–		1	52436	2	–	2	2
43526	2	–	1	1	54326	1	–	2	2
32546	1	–			64235	2	–		1
52436	1	–		1	25346	2	–	2	2
23456	1	–			23456	1	–	2	2

H. DAINS.

5184

23456	M	B	W	H	23456	M	B	W	H
63542	2	–		1	64352	2	–	1	1
34625		–			45362	1	–		
42356		–			56423		–		
62534	2	–		1	56234		–		1
23645		–			34562		–	2	
34256		–			46325		–		
36452		–	1	1	46253		–		1
34562	1	–	2	2	53462		–	2	
43265		–	1	2	52364	2			1
35264	1			2	42563		–	1	
54263	2	–	1	2	24365		–	1	2
24653	1	–		1	25463		–	1	1
45236		–			35264		–	1	
25346	1	–		1	35642		–		1
43526	1	–		2	53246		–	1	2
32546	1	–			52436	1	–	2	2
52436	1	–		1	54326			1	2
23456			2		23456	1	–		2

N. J. PITSTOW.

MISCELLANEOUS ONE-PART PEALS.

Under this heading will be found the one-part peals which cannot be inserted in any of the foregoing classes. The most interesting of these peals are the ones which immediately follow, as they are longer than any of those which are divided into parts. The 8640 of Mr. Lockwood's is contained in twenty-eight courses, Mr. Thorp's 8864 in thirty, and Mr. Harrison's 8896 in twenty-nine. If Mr. Thorp's peal was commenced at the sixth course, it would be rendered much easier to commit to memory, as the part most thickly studded with calls would then be rung almost at the beginning of the peal, and it would conclude with two series of five courses, each called alike. This arrangement has been adopted in the reverse variation of the peal, but it does not simplify the calling so much as it would if the original was arranged in the manner described. Mr. Harrison's peal is the greatest length ever obtained, without parting the tenors, by the use of ordinary fourth's place bobs only.

The bobs B. may be omitted in the sixteenth, nineteenth, twenty-second, twenty-fifth, and twenty-eighth courses of the original of this peal, when the same course-ends, although in different places, will be produced. Mr. Lockwood's 9120 is obtained by using a single to bring the bells round at the 9120th change, when 2 3 4 5 lie still. (See Part I., pp. 78-9.)

8640

23456	M	B	W	H
54326	1	-		2
25463		-		2
62534		-		2
36245		-		2
32465			1	2
63425	1	-	2	
24536	2	-	2	
46532	2	-	1	2
34562	1	-	2	
65243	2	-	2	
53246	2	-	1	2
45236	1	-	2	
32654	2	-	2	
24653	2	-	1	2
52643	1	-	2	
46325	2	-	2	
65324	2	-	1	2
26354	1	-	2	
45362	2	-	2	1
45623		-		1
52436		-		
52364		-		1
26543		-		
26435		-		1
63254		-		
63542		-		1
34625		-		
23456		-		2
54632	2	-	2	
42635	2	-	1	2
34625	1	-	2	
26543	2	-	2	
63542	2	-	1	2
46532	1	-	2	
35264	2	-	2	
54263	2	-	1	2
65243	1	-	2	
42356	2	-	2	
26354	2	-	1	2
52364	1	-	2	
63425	2	-	2	
35426	2	-	1	2
56423	1			2
25634		-		2
32546		-		2
43265		-		2
34562		-	1	2
46325		-		
46253		-		1
65432		-		
65324		-		1
52643		-		
52436		-		1
23564		-		
23645		-		1
23456		-		1

J. LOCKWOOD.

*8864

23456	M	B	W	H
36452	2	-	1	2
65324		-		
52643		-		
45236		-		2
34256	1	-	2	
64523	2	-		1
26543	1	-	2	
63542	2	-	1	2
46532	1	-	2	
62534	2	-	1	2
36524	1	-	2	
42563	2	-	2	1
64235		-		2
43265	1	-		
34562		-	1	2
63425		-		2
32465	1	-		
23564		-	1	2
62345		-		2
24365	1	-		
46253		-		
65432		-		
53624		-		
25346		-		2
42356	1	-	2	
26354	2	-	1	2
65243		-		
54632		-		
35426		-		2
23456	1	-	2	
36452	2	-	1	2
65324		-		
52643		-		
24536		-		
43265		-		
34562		-	1	2
63425		-		2
32465	1	-		
23564		-	1	2
62345		-		2
24365	1	-		
42563		-	1	2
42635		-		1
36524	2	-	2	
64523	2	-	1	2
26543	1	-	2	
63542	2	-	1	2
46532	1	-	2	
25634	2	-	1	1
34256		-	2	
46253	2	-	1	2
65432		-		
53624		-		
25346		-		2
42356	1	-	2	
26354	2	-	1	2
65243		-		
54632		-		
35426		-		2
23456	1	-	2	

J. THORP.

In the reverse variation of Mr. Harrison's 8896, which follows, if the bob at H. is omitted in the fourteenth course, and the fifteenth called the same as the third course in each of the previous divisions, the bells will come round at the course-end, as the peal will then be merely one of 5280 changes in five parts; although, on reference, I see that it is not included in the five-part peals previously given.

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*First rung in 1874, at Ashton-under-Lyne. (See Part I., p. 4.)

Mr. Lockwood's 9120 may also be brought round at the fifteenth course-end in 5280 changes, by calling that course the same as in the previous divisions.

It will be seen that both Mr. Harrison's and Mr. Lockwood's compositions have the same feature of the introduction of a five-part peal, almost entirely, into their changes, and that identically the same peal, reversed in the different cases, is used. Curiously enough, although there is such a similarity in these compositions, they were produced under entirely independent conditions. I believe that I was the first person to whom Mr. Lockwood communicated his composition, and it had been, in confidence, in my possession for a few weeks when I received Mr. Harrison's peal, which he had then just composed.

* 8896

23456	M	B	W	H	23456	M	B	W	H
36452	1			2	52436	1	–	2	
53624		–		2	34625	2	–	2	
25346		–		2	45623	2	–	1	2
42563		–		2	24653	1	–	2	
64235		–		2	56342	2	–	2	
24365	1	–		1	62345	2	–	1	2
46253		–			46325	1	–	2	
46532		–		1	23564	2	–	2	
63425		–			34562	2	–	1	2
63254		–		1	63542	1	–	2	
35642		–			45236	2	–	2	
35426		–		1	56234	2	–	1	2
52364		–			35264	1	–	2	
52643		–		1	46253	2	–	2	1
52436		–		1	46532		–		1
34625	2	–	2		63425		–		
45623	2	–	1	2	63254		–		1
24653	1	–	2		35642		–		
56342	2	–	2		35426		–		1
62345	2	–	1	2	52364		–		
46325	1	–	2		52643		–		1
23564	2	–	2		24536		–		
34562	2	–	1	2	24365		–		1
63542	1	–	2		42563		–	1	2
45236	2	–	2		64235		–		2
56234	2	–	1	2	36452		–		2
35264	1	–	2		53624		–		2
62453	2	–	2		25346		–		2
23456	2	–	1	2	23456			1	2

W. HARRISON.

† 9120

23456	M	B	W	H
36452	2	–	1	2
53462	1	–	2	
64235	2	–	2	
45236	2	–	1	2
34256	1	–	2	
52643	2	–	2	
23645	2	–	1	2
42635	1	–	2	
36524	2	–	2	
64523	2	–	1	2
26543	1	–	2	
45362	2	–	2	
52364	2	–	1	2
65324	1	–	2	
43526	2	–	1	1
24365		–		2
62453		–		2
56234		–		2
35642		–		2
53246		–	1	2
34562		–		
34625		–		1
42356		–		
42563		–		1
26435		–		
26354		–		1
65243		–		
65432		–		1
53624		–		
23456		–		S

J. LOCKWOOD.

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* First rung in 1876, by the Cumberland Youths. (See Part I., p. 5.)

† First rung in 1876, by the Yorkshire Association. (See Part I., p. 5.)

As I find myself unable to classify the different one-part peals I have collected, I shall present them to my readers, with a few prefatory remarks, without attempting any particular arrangement.

The three following peals are interesting from the fact that the second bell is in second's place at twelve course-ends in each peal. In the two last compositions this peculiarity is presented at the twelve last course-ends.

5024

23456	M	B	W	H
43526	1	–		1
46325	2			1
25634	2	–		2
26354			1	2
23564	1	–	2	2
23645	2		2	1
26435			1	2
24365			1	2
26543	2		1	1
64523	1	–		
25463	1	–		2
24653	1	–	2	2
24536	2		2	1
25346			1	2
23456			1	2

W. SOTTANSTALL.

5120

23456	M	B	W	H
35642	2	–		
43526		–		2
46325	2			1
25634	2	–		2
26354			1	2
23564	1	–	2	2
23645	2		2	1
26435			1	2
24365			1	2
26543	2		1	1
25463	1	–	2	2
24653	1	–	2	2
24536	2		2	1
25346			1	2
23456			1	2

W. SOTTANSTALL.

5184

23456	M	B	W	H
52436	1	–	2	
63425	2	–	2	1
65324	2			1
23564			2	2
25634			1	2
26354			1	2
25463	2		1	1
24653	1	–	2	2
26543	1	–	2	2
26435	2		2	1
24365			1	2
23645			1	2
24536		–	2	1
25346			1	2
23456	1	–	2	2

W. SOTTANSTALL.

The peculiarities which distinguish the following peals are the number and arrangements of the positions of the sixth in 5-6. Mr. Firth's 5184, although it has only the sixth eleven times each way in 5-6, and six course-ends in each place, and has been superseded by the peals that have the sixth the extent each way, is interesting from the fact that it is probably the first ever composed and rung on this plan; it is undoubtedly the first ever published with the sixth six course-ends each way. The reverse variation is not given, as it differs very little from the original peal. An improvement on this peal is given by Mr. Sottanstall: it consists in calling the annexed three courses, instead of the ninth, tenth, eleventh, and twelfth courses in the original, when the number is 5056, and the sixth is twelve times wrong and eleven right. Following Mr. Firth's 5184 are three peals with the sixth the extent at home, and in that position at nine course-ends in each peal. The peals by Mr. Harrison and Mr. Dains have this peculiarity at nine out of the last ten course-ends, Mr. Harrison's 5088 being the first peal ever obtained with this quality.

34562	M	B	W	H
36245		–	2	1
32465	1	–	2	2
52643	2	–		1

* 5184

23456	M	B	W	H
56234		–	2	
63425	2	–		
25634		–	2	
53462	2	–		
35264		–	1	2
45362		–	1	
54263		–	1	2
34562		–	1	
32465		–	1	1
26543	2	–		
62345		–	1	2
52643		–	1	
54326		–	2	1
42356	1	–		
53246	1	–		2
34256	1	–		
52436	1	–		2
23456	1	–		

C. FIRTH.

† 5024

23456	M	B	W	H	23456	M	B	W	H
46532	2	–	2	2	36452	2	–	1	2
45362	1	–	2	2	54263	2	–	2	
52364	2	–	1	2	34562		–	1	
24365	2	–	1	2	32465		–	1	1
46325	1	–			52364		–	1	
62453		–			42563		–	1	
25634		–			46325		–	2	1
24536		–	1	1	25463		–	2	
43526	1	–			23564		–	1	1
53246	1	–		1	43265		–	1	
34256	1	–			45362		–	1	1
64523	2	–		1	56342	1	–		
42356	2	–			64523		–		
25346	1	–			42635		–		
35426	1	–		1	24536		–	1	2
52436	1	–			25346	1	–	2	2
23456	1	–			23456	1	–	2	2

H. DAINS.

‡ 5088

23456	M	B	W	H	23456	M	B	W	H
36452	2	–	1	2	46532	1		1	2
34562	1	–	2	2	35642	1	–		2
65432			2	2	53246	2			2
56234		–	1	2	36245	2	–	1	2
24365	1		1	2	24365	1	–	2	1
42563		–	1	2	54263		–	1	
52643			2	1	53462		–	1	1
24536		–			52364		–	1	1
43526	1	–			42563		–	1	
32546	1	–			32465		–	1	
34625		–	2	1	32654		–		1
42356		–			25463	2	–		
25346	1	–			35264		–	1	
35426	1	–		1	45362		–	1	
45236	1	–		1	45623		–		1
53246	1	–			54326	2			2
23456	1	–		1	23456	1	–		2

W. HARRISON.

5248

23456	M	B	W	H	23456	M	B	W	H
35264		–			35264		–		
43652		–	2	2	45362		–	1	
43526		–		1	24653		–	2	2
56234	2	–	2	2	56423	1	–		2
65432		–	1	2	32465	2	–	2	1
53246	2	–			52364		–	1	
34256	1	–			42563		–	1	
24536	1	–		1	34625		–	2	2
56342	2	–	2	2	26435	1	–		2
65243		–	1	2	53462	2	–	2	1
54326	2	–			23564		–	1	
42356	1	–			43265		–	1	
32546	1	–		1	54632		–	2	2
56423	2	–	2	2	36452	1	–		2
65324		–	1	2	25463	2	–	2	1
52436	2	–			62534		–		2
23456	1	–			23456	2	–		

J. LOCKWOOD.

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* First rung at Ecclesfield, on December 14th, 1845.

† First rung on June 1st, 1878, by the Cumberland Youths, at St. Matthew's, Bethnal Green. Conducted by J. Cox.

‡ First rung on Nov. 21st, 1876, by the Yorkshire Association, at St. Matthew's, Holbeck. ducted by Jasper W. Snowdon; being the first ever composed or rung on the plan.

.e was the greatest number of
nds at which the sixth had
ought home in a peal, without
recourse to parting the tenors,
r. Harrison obtained the two
g peals of 5248 changes, in
which the sixth is its extent
nd also in that position at ten
course-ends. Mr Dain's peal
nprovement on Mr. Harrison's
; he has succeeded in reducing
nber of changes to 5024, and
ught the sixth home in a very
manner.

† 5024

23456	M	B	W	H	23456	M	B	W	H
64352	2	–	1	1	56342	2	–		2
26543		–	2	2	26435	2	–		1
32465		–	2	2	32465	1	–	2	
54263	2	–	1	1	52364		–	1	
62345	2	–	2		54263		–	1	1
24536	2	–			34562		–	1	
43526	1	–			24365		–	1	
53246	1	–		1	46253		–		
34256	1	–			36524	2	–		1
45236	1	–			23564	1	–	2	
62534	2	–	1	1	43265		–	1	
34625		–	2		45362		–	1	1
42356		–			25463		–	1	
25346	1	–			35264		–	1	
35426	1	–		1	64352		–	2	
52436	1	–			25346	2	–	2	1
23456	1	–			23456	1	–	2	2

H. DAINS.

* 5248

M	B	W	H	23456	M	B	W	H
2	–	2	1	35264		–		
2	–			36452		–	2	1
	–			54263	2	–	2	
	–	2	2	34562		–	1	
	–			32465		–	1	1
1	–		1	52364		–	1	
1	–			42563		–	1	
1	–			34625		–	2	2
1		2	1	36245	1	–	2	2
	–		1	26435	1	–		1
	–	2	1	56342	2	–		1
	–	1	2	56423		–		1
2	–	1	2	23564	2		1	
2	–			43265		–	1	
1	–			45362		–	1	1
1	–		1	25463		–	1	
1	–			62534		–		2
1	–			23456	2	–		

W. HARRISON.

5248

23456	M	B	W	H	23456	M	B	W	H
64352	2	–	1	1	35264		–		
62453		–	1	1	56342		–		
25634		–			56423		–		1
53246		–			46253	1	–		1
34562		–			54263	1	–	2	
23645		–	2	2	34562		–	1	
34256		–			32465		–	1	1
24536	1	–		1	52364		–	1	
43526	1	–			42563		–	1	
32546	1	–			34625		–	2	2
65243	1			1	36245	1	–	2	2
65432		–		1	36452		–		1
36524		–		2	36524		–		1
64523	2	–	1	2	23564			1	
42356	2	–			43265		–	1	
25346	1	–			45362		–	1	1
35426	1	–		1	25463		–	1	
52436	1	–			62534		–		2
23456	1	–			23456	2	–		

W. HARRISON.

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st rung on November 11th, 1876, by the Yorkshire Association, at St. Matthew's, Conducted by Jasper W. Snowdon; being the first ever composed or rung on this

†

st rung on September 21st, 1878, by the Yorkshire Association, at St. John the , Knaresborough. Conducted by Jasper W. Snowdon.

The first of the following peals has the sixth nine times W and twelve H., the second has the same qualities, but the sixth is at home six course-ends. In Mr. Dains's 5056 the sixth is six course-ends each way and the extent H., but only eight times W.; it has, however, all the 8 6 7's, and the three 6 5's and 5 6's each at three separate course-ends. Mr. Harrison's 5376 has the sixth the extent H. at eight course-ends.

5088

23456	M	B	W	H	23456	M	B	W	H
52364		–		2	52364		–		2
24365	2	–	1	2	45623		–	2	2
62453	2		2	2	24536		–		2
53246	2	–		2	36452	1		2	2
46325	2	–		2	42563	2	–	2	2
65324	2	–	1	2	34625		–	2	2
24536	1		2	2	26435	1	–		2
56342	2	–	2	2	45362	2	–	2	2
65243		–	1	2	24653	2		1	2
43526	2	–		2	26543	1	–	2	2
56234	2	–	2	2	32465		–	2	2
45362	2		1	2	53624		–	2	2
64523		–		2	25346	2		2	2
23456	2	–		2	23456	1	–	2	2

J. LOCKWOOD.

5056

23456	M	B	W	H	23456	M	B	W	H
63542	1		2	1	32654	2			2
45362			2	2	53624	1	–	2	
56342			2		35426	2			2
62345	2	–	1	2	36524	2			1
43265			2	2	24365	2		1	
35264	2	–	1	2	42563		–	1	2
64523	1		2	2	32465		–	1	
26435		–		2	23564		–	1	2
63425	1	–			43265		–	1	
65324		–	1	1	34562		–	1	2
54326	1			2	56342			1	1
42356	1	–			64352	1	–		
53246	1	–		2	46253		–	1	2
34256	1	–			54632		–		2
52436	1	–		2	25346	2		1	2
23456	1	–			23456	1	–	2	2

J. PLATT.

5056

23456	M	B	W	H	23456	M	B	W	H
63542	1		2	1	35642	2	–		
36245		–	1	2	42356		–	2	
43265	1	–	2		25634	2	–		
36524	2	–			34256		–	2	
24365		–	2		46253	2	–	1	2
46532	2	–			26543	1	–		1
32465		–	2		43265	2		1	
25463	2	–	1	2	34562		–	1	2
35264		–	1		24365		–	1	
45362		–	1		42563		–	1	2
45623		–		1	32465		–	1	
54326	2			2	23564		–	1	2
42356	1	–			53624			2	1
53246	1	–		2	32546		–		
34256	1	–			24536	1	–		
52436	1	–		2	35426	1	–		2
23456	1	–			23456	1	–	2	

H: DAINS.

5376

23456	M	B	W	H	23456	M	B	W	H
52364		–		2	23564		–		1
64235	2	–		2	43265		–	1	
46532		–	1	2	45362		–	1	1
62534	2	–	1	2	25463		–	1	
36245		–		2	62534		–		2
65243	2	–	1	2	54326	2	–	2	2
63542	2			1	54263		–		1
34625		–			34562		–	1	
42356		–			32465		–	1	1
32546	1	–		1	52364		–	1	
24536	1	–			26543		–		
54326	1	–		1	26435		–		1
25463		–		2	34625			2	2
43652	2	–	2	2	36245	1	–	2	2
35426		–			43652		–		2
45236	1	–		1	46532	1	–	2	2
53246	1	–			35642	1	–		2
23456	1	–		1	23456		–	2	2

W. HARRISON.

The following peals are each contained in thirteen courses. Mr. Reeves's 5248 is the greatest length yet obtained in this number of courses. Mr. Lockwood's 5056 can be varied in the calling of the "long" part; this variation has been used in pricking the reverse peal.

5024

23456	M	B	W	H
24536	1	-	2	2
62345	2		1	2
35426	2	-	2	2
46253	2	-	2	2
34562	2		1	2
43265	2			2
53624	1		2	1
63254			2	1
52364			2	2
65243	2		2	2
46532	2		2	2
34625	2		2	2
23456	2		2	2

W. SOTTANSTALL.

* 5056

23456	M	B	W	H	23456	M	B	W	H
36452	2	-	1	2	36452	2	-	1	2
52364		-	2		46532	1	-		1
34625	2	-	2	2	52364	2	-	2	2
65243	2	-	2	2	34625	2	-	2	2
42356	2	-	2		42356	2		2	
54263	2		2	2	36524	2	-	2	2
23645	2	-	2	2	54263	2	-	2	2
65432	2	-	2	2	23645	2	-	2	2
34256	2	-	2		34256	2		2	
53462	2		2	2	26543	2	-	2	2
42635	2	-	2	2	53462	2	-	2	2
65324	2	-	2	2	42635	2	-	2	2
23456	2	-	2		23456	2		2	

J. LOCKWOOD.

† 5216

23456	M	B	W	H
36452	2	-	1	2
42563	2	-	2	2
53624	2	-	2	2
64235	2	-	2	2
62345	1	-	2	2
62453	2		2	1
56234	2		2	2
56342	2		2	1
45623	2		2	2
45236	2		2	1
34562	2		2	2
34625	2		2	1
23456	2		2	2

J. REEVES.

5216

23456	M	W	H	23456	M	W	H
56342	1	2	2	62534	2	1	2
45623	2	2	2	62345	2	2	1
24536	2	2	2	46253	2	2	2
32465	2	2	2	53624	1	2	2
53624	2	1	2	53246	2	2	1
25346	2	2	2	45362	2	2	2
25463	2	2	1	45623	2	2	1
62534	2	2	2	24536	2	2	2
62345	2	2	1	32465	2	2	2
46253	2	2	2	65243	1	2	2
34562	2	1	2	46532	2	2	2
34625	2	2	1	34625	2	2	2
23456	2	2	2	23456	2	2	2

J. REEVES.

† 5248

23456	M	W	H
56342	1	2	2
45623	2	2	2
24536	2	2	2
32465	2	2	2
53624	2	1	2
25346	2	2	2
25463	2	2	1
62534	2	2	2
62345	2	2	1
46253	2	2	2
46532	2	2	1
34625	2	2	2
23456	2	2	2

J. REEVES.

† 5632

23456	M	B	W	H
52364	2		2	2
65243	2		2	2
46532	2		2	2
34625	2		2	2
36245	1	-	2	2
36452	2		2	1
53624	2		2	2
53246	2		2	1
45362	2		2	2
45623	2		2	1
24536	2		2	2
24365	2		2	1
62453	2		2	2
23456	2	-	1	2

J. REEVES.

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* First rung on January 22nd, 1877, by the Yorkshire Association, at St. Matthew's, Holbeck. Conducted by W. Whitaker.

† Reverses to the same peal.

The preceeding peal and the two following peals are each contained in fourteen courses. Mr. Reeves's 5632 is the extent of changes yet obtained in this number of courses. The peals by Mr. Hurry and Mr. Sottanstall are examples, with nearly the compliment of calls in certain positions.

5344

23456	M	B	W	H
23564	2		2	1
46532	2	–	2	1
34625	2		2	2
42356	2		2	
42563	2		2	1
36524	2	–	2	1
23645	2		2	2
34256	2		2	
34562	2		2	1
52643	2	–	2	2
25346	2			2
56342	2	–	1	2
42635	1		2	2
23456	2		2	
35264	2		2	
63542	2		2	2
26435	2		1	2
24365	1	–	2	2
63425			2	2
52436	2	–	2	1
23564	2		2	
62345	2		2	2
62453	2		2	1
35426	2	–	2	1
52364	2		2	
65243	2		2	2
65432	2		2	1
23456	2	–	2	1

T. Hurry.

5376

23456	M	B	W	H
62534		–	2	2
36245	2		2	2
45623	1		2	2
63254	2	–	2	2
46532		–	2	2
35642			2	2
62453	2	–	2	2
36524	2		1	2
35264	1	–	2	2
43652		–	2	2
24536		–	2	2
32465	2		2	2
34625	1	–	2	2
23456	2		2	2
52364	2		2	2
24365	2	–	1	2
62453	2		2	2
53246	2	–		2
46325	2	–		2
65324	2	–	1	2
24536	1		2	2
56342	2	–	2	2
65243	2			2
43526	2	–		2
56234	2	–	2	2
45362	2		1	2
64523	2		2	2
23456	2	–		2

W. Sottanstall.

In the following peals will be found several in parts not exactly similar, whilst others have certain parts called alike, and are reduced from a number too greatly in excess of 5000, or are brought up to that number, by another part, composed with different calls so as to bring up the desired number. If the third division of the following 5024, by Mr. Harrison, be called like the first, the peal will be increased to 6016 changes. The first of Mr. Lockwood's 5024's has all the 8 6 7's and the sixth the extent home, the second has the sixth nine times wrong and the extent home.

5024

23456	M	B	W	H
36452	1			2
34562			1	2
35642	1	–	2	2
46532	1	–		2
64235		–	1	2
45236	1			2
34256			1	
46253	1			2
26543			2	1
62345		–	1	2
25346	1			2
42356			1	
36524	1		1	2
63425		–	1	2
35426	1			2
23456			1	

W. HARRISON.

*5024

23456	M	B	W	H
54326	1	–		2
42563	2		2	
23564	2	–	1	2
46532	2	–	2	1
62534	2	–	1	2
24536	2	–	1	2
24365		–		1
56342	2	–	2	1
62345	2	–	1	2
25346	2	–	1	2
25463		–		1
36452	2	–	2	1
62453	2	–	1	2
23456	2	–	1	2

J. LOCKWOOD.

5024

23456	M	B	W	H
36452	2	–	1	2
46532			2	1
52364	2	–	2	2
64235	1		2	2
45236	1			2
34256	1	–	2	
53462	2		2	2
62345	1		2	2
25346	1			2
42356	1	–	2	
54263	2		2	2
63425	1		2	2
35426	1			2
23456	1	–	2	

J. LOCKWOOD.

5024

23456	M	B	W	H
36452	1			2
63254	2			2
52364			2	2
53624			1	2
25346		–		2
56342	1			2
65243	2			2
42563			2	2
45623			1	2
24536		–		2
46532	1			2
64235	2			2
32465			2	2
34625			1	2
23456	2		2	2

J. COX.

5056

23456	M	B	W	H
62534		–	2	2
36245	2		2	2
53462		–	2	2
65324	2		2	2
46253		–	2	2
54632	2		2	2
35426		–		2
24536			2	2
25346			1	2
42563	2		2	2
64235		–		2
32465			2	2
34625			1	2
23456	2		2	2

W. SOTTANSTALL.

†5088

23456	M	B	W	H
32654		–	1	2
36524			1	2
35264			1	2
53462		–	1	2
54632			1	2
56342			1	2
65243		–	1	2
62453			1	2
64523			1	2
46325		–	1	2
43265			1	2
42635			1	2
43526		–	2	1
45236			1	2
25346			2	1
23456			1	2

J. FLEMING.

5056

23456	M	B	W	H
46532	2	–	2	2
52364	2	–	2	2
64235	2	–		2
45236	1			2
34256	1	–	2	
26543	2	–	2	2
53462	2	–	2	2
62345	2	–		2
25346	1			2
42356	1	–	2	
54263	2		2	2
63425	2	–		2
35426	1			2
23456	1	–	2	

W. ROYLE.

5248

23456	M	B	W	H
52364	2		2	2
53624	1	–	2	2
56234			1	2
34625	1		2	2
42356	2		2	
54263	2		2	2
52643	1	–	2	2
56423			1	2
23645	1		2	2
34256	2		2	
53462	2		2	2
54632	1	–	2	2
42635	2	–	1	2
23456	2		2	

W. HARRISON.

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* First rung by the Yorkshire Association, on November 20th, 1875, at All Saints', Ilkley. Conducted by its Composer.

† Rung at Halifax Parish Church, on February 16th, 1858. Conducted by J. G. Holroyd.

The following 5088, by Mr. Patrick, contains the least number of changes that has ever been composed in twenty-two courses. Mr. Sottanstall's 6080 is a similar peal increased to twenty-six courses. This 6080 may be brought round at 5184 changes by omitting the bob B. and calling one W. in the twenty-second course.

5088

23456	M	B	W	H
35426	-	-		
52364		-		
26543		-		
64235		-		
64352		-		-
45623		-		
52436		-		
23564		-		
23645		-		-
34256		-		
45362		-		
56423		-		
56234		-		-
63542		-		
34625		-		
42356		-		
25463		-		
35264		-	-	
56342		-		
64523		-		
42635		-		
23456		-		

J. PATRICK.

6080

23456	M	B	W	H
35264		-		
56342		-		
64523		-		
42635		-		
23645	1	-		
34256		-		
45362		-		
56423		-		
56234		-		1
63542		-		
34625		-		
42356		-		
42563		-		1
26435		-		
63254		-		
35642		-		
25346		-	1	
54263		-		
46532		-		
63425		-		
65324		-	1	1
52364	1	-		
26543		-		
64235		-		
43652		-		
23456		-	1	

W. SOTTANSTALL.

PEALS WITH THE TENORS PARTED.

In peals of any ordinary number of changes, unless there is a great deal of merit in the composition, there is little reason for parting the tenors. There are, however, certain peals of this class which present curious results, and others in which the desired object cannot be obtained by other means. I shall, therefore, commence this selection with a few peals of the ordinary numbers of changes before proceeding to those which are over 10,000.

The four following three-part peals have each the sixth the extent each way in 5-6. Mr. Wood's peal was first published in the 1845 edition of Mr. Hubbard's work on ringing and Mr. Estcourt's peal in the 1854 edition of the same work.

5088

23456	M	B	W	H
54326	1	–		2
26435	2	–		2
32465	1	–	2	
25463	2	–	1	2
42356	4ths & in.			

D. WOODS.

5088

23456	M	B	W	H
26354	2			1
53462	2	–	2	
32465	2	–	1	2
43526	4ths & in.			
25346	1	–		2

W. ESTCOURT.

6048

23456	M	B	W	H
46532	2	–	2	2
26354	2	–		1
23564			1	2
43265		–	1	
45236	4ths & in.			2
34256	1	–	2	

S. MARSH.

* 6048

23456	M	B	W	H
63542	2	–		1
65432	1	–	2	2
34562			2	2
24365		–	1	
25346	4ths & in.			2
42356	1	–	2	

W. HARRISON.

Mr. Marsh's peal, which follows, contains the sixty course-ends, while the two remaining peals each contain the twenty-four 867's, 786's, and 678's. Mr. Hubbard's 5184 was the first peal composed on the plan of changing the relative positions of 678 in the different parts, so that they course each other in the various orders of 8-7-6, 7-6-8, and 6-8-7. If the 1 W. in the 5184 be omitted in each part, the number of changes will be reduced to 5088.

8064

23456	M	B	W	H
62534	2		1	2
65324	1	–	2	2
46253		–	2	2
24365	4ths & in.			
42563		–	1	2
64235		–		2
45236	1			2
34256	1	–	2	

S. MARSH.

† 5184

23456	M	B	W	H
46532	1		1	2
32465		–	2	
23564	2			2
24365	2			1
25463	2			1
–3425867				
–2345867				

H. HUBBARD.

‡ 5280

2345678	M	B	W	H
2453867	in.		1	2
4352	1	1		
2534	1	1		2'
5432	1	1		
2345	1	1		2
3542867	1	1		

T. LOCKWOOD.

In the following three-part peals, by Mr. Sottanstall, the first has the sixth at home at each course-end, and the two last have the different positions of 5 6 7 at the course-ends.

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* First rung on May 19th, 1851, at Mottram. Conducted by Wm. Harrison.

† First rung in 1862, at Birstall. Conducted by J. Barraclough.

‡ First rung on February 5th, 1876, by the Yorkshire Association, at St. Matthew's, Holbeck. Conducted by its Composer.

5088

23456	M	IN	OUT	5THS	W	H
54326	2	–	–	2		
43526		–		1		
35426		–		1		
3752648		–			1	1
3724658		–				1
34256				2		

W. Sottanstall.

5184

234567	M	IN	OUT	5THS	W	H
726345			1	2	2	2
526374		1	1	1	2	2
342675	2	1	1			
342756			1	4ths & out.		
342567			1	4ths & out.		

W. Sottanstall.

5184

234567	M	IN	OUT	5THS
523764	2	1	1	1
275634			1	
423675	1	1 4ths & in, 4ths & out, 4ths & out.		
423756	out, 4ths & out.			
423567	out, 4ths & out.			

W. Sottanstall.

Of the two following one-part peals, Mr. Sottanstall's 5184 has the sixth the extent home at the nine last course-ends, the tenors only being parted in two courses. Mr. Johnson's peal has the sixth the extent in all positions, and that bell at home at the twelve last course-ends.

5184

23456	M	B	W	H
63542	2	–		1
26435		–	2	2
24365	1	–	2	2
45362	1			2
25463		–	1	
54263	in & 5ths.			
65432		–		2
36524		–		2
24653	2	–		2
45236		–		
53246	1	–		
34256	1	–		
42356	in & 5ths.			
25346	1	–		
43526	1	–		2
32546	1	–		
52436	1	–		1
23456	1	–		

W. Sottanstall.

* 5088

23456	M	IN	4THS	OUT	5THS	W	H
52364				1			2
24365	2			1		1	2
25463	2	1			1		2
53462	2			1		1	2
3574628	2		1		1	2	
54326		1					
43526		1			1		
35426		1			1		
52436	1			1			
24536		1			1		
45236		1			1		
53246	1			1			
32546		1			1		
25346		1			1		
34256	1	1	1	1	1		
42356		1			1		
23456		1			1		

H. Johnson.

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* First rung on May 29th, 1853, at St. Peter's, Earlsheaton. Conducted by Chas. A. Fox.

Although the foregoing short lengths, with the tenors parted, do not in ny way represent the total number that has been produced of such peals, think that in the selection given is included at least one example of each lass of interest, that has come under my notice. I may also observe that the eals given are, for the most part, the first peals obtained on the different plans.

Of course the number of "variations" that may be produced from peals n which the tenors are parted is so enormous that the ordinary reverse ariations are no longer of interest. I may here remark that, by varying the bservation bells in certain peals originally composed with the tenors together, ome curious and musical effects may be produced. I shall, however, leave he production of such examples to the ingenuity of my readers, and will now roceed to give the most interesting examples of those peals which exceed in ength such numbers as can be produced with the tenors together.

A statement of the different times at which the gradually increasing lengths f Treble Bob Major were obtained will be found in Part I., pp. 5-9.

Mr. Eversfield's 10080, which follows, is in thirty-six courses, and was irst published in the appendix to Shipway's Work, in 1816. If from the ourse-end 23645, two courses are called in ach part, as annexed, the peal may be increased o 11232 changes. The 10080 by Mr. Sottanstall is contained in thirty-nine courses, and is a emarkably easy peal to conduct. Mr. Harrison's 10176 is well known on ccount of its being composed in thirty-three courses only, and also for the mall number of its changes at which the tenors are apart.

2 3 6 4 5	
4 5 3 6 2	in & out, & two in fifths.
3 4 2 5 6	4ths & in.

10080

2 3 4 5 6 7	M	IN	OUT	5THS	W	H
4 3 5 7 2 6		–	–	I		2
3 7 6 4 5 2	I	–	–			I
4 6 7 2 3 5		–	–	I		
6 2 7 5 4 3	I	–				
5 2 4 3 6 7		–	–		I	2

	M	B	W	H
5 2 3 6 4		–		I
2 6 4 3 5	2	–		
3 2 6 5 4		–		2
3 6 5 2 4	I	–	2	2
6 2 5 3 4	I	–		
2 3 6 4 5		–		
3 4 2 5 6		–		

Twice repeated.

W. EVERSFIELD.

10080

2 3 4 5 6	
5 6 7 4 3 2	out, 4ths twice, one home
4 5 7 6 3 2	one wrong.
5 4 7 2 3 6	one fifths, one wrong.
2 6 4 3 5 7	in and out.

	B	W	H
6 3 2 5 4	–		
3 5 6 4 2	–		
5 3 2 4 6	–	I	2
3 4 5 6 2	–		
4 5 3 6 2	in, one fifths.		
5 6 4 2 3	–		
6 2 5 3 4	–		
2 3 6 4 5	–		
3 4 2 5 6	–		

Twice repeated.

W. SOTTANSTALL.

* 10176

23456	M	OUT	4THS	5THS	W	H
427365		–	–			
362745	1				2	2
523647				1		2

	M	B	W	H
26435	2	–		
32654		–		2
65324	1	–	2	1
54326	2	–	1	2
26543		–	2	
63542	1			2
34625		–		
42356		–		

Twice repeated.

W. HARRISON.

10400

234567	M	IN	OUT	5THS	W	H
654327	2		–		2	1
352764		–	–		1	2
453762	2	–	–	1	2	2
537264	1		–	1	1	2
345627	in, 4ths & in twice.				2	2

Four times repeated. W. SHIPWAY.

† 12320

234567	M	IN	OUT	5THS	W	H
654327	2		–		2	1
457632	out & 4ths twice, out & one 5ths.					
547236	1		–	2		
427653		–	–	1		1
352647		–	–		2	
42563	2		–		1	1
45623	1		–		2	2

Four times repeated. W. SHIPWAY.

If the five bobs bracketed be omitted in any two parts, the peal comes round in 10208 changes.

‡ 12000

23456

627345 in, 4ths & in twice.

674235 one M., in, 4ths & in twice.

	M	IN	B	5THS	W	H
746235	2	1	1	2	2	1
274536	2	1	1	1		
457326		1	1	2	1	
36524		1	1			
62345			1			
24653			1			
45236			1			
45362			1			1
56423			1			
62534			1			
23645			1			
34256			1			

Twice repeated. W. SOTTANSTALL.

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* First rung on March 14th, 1871, at St. Mary's, Kenninghall, in 6 hrs. 20 mins. Conducted by J. Mordey. Tenor, 15 cwt.

† Rung at Otley, Yorkshire, in 1814. (See Part I., pp. 7-8.)

‡ Rung as 10208, at Liversedge, Yorkshire, on January 1st, 1841, in 5 hrs. 46 mins. Conducted by J. Firth. Tenor, 16 cwt.

13056

23456						
627354	in, 4ths & in twice.					
674235	middle, in, 4ths & in twice.					
	M	IN	OUT	5THS	W	H
372465		1	1	2		2
736425	1	1	1	2	2	1
473526	2	1	1	1		
357246		1	1	2	1	
26543		1	1			
64235			1			
43652			1			
35426			1			
35264			1			1
56342			1			
63542		1		1		
34625			1			
42356			1			

Twice repeated.

W. SOTTANSTALL.

* 14016

23456	M	B	W	H
63254		–	1	
46532		–	2	2
42635	2			1
25634	1			2

	M	IN	OUT	4THS	5THS	W	H
376452		1		2			1
467235		1	1		1		
627543	1	1					
472563	1						1
756324	2	1					
537426		1					
453627		1					2
245736			1		2		2
346725	2 M., 4ths, out & 4ths thrice, out & 1 H.						
342567	in, 4ths & out.						

Twice repeated.

W. EVERSFIELD.

† 15168

23456	M	IN	OUT	5THS	W	H
35264			–			
35642			–			
54326			–			
42563			–			
46325			–		2	1
62453			–			
36524			–		2	2
276354	1	1	–			
357462	1	1	–	1		
567432	1					2
347526	4ths		–		1	1
367425	1		–	2	2	
457632	1	1			2	
64523	2	1	–	1		
42635			–			
724356		1			1	
627354		1			1	
34256		1	–			

Twice repeated.

HUGH WRIGHT, Leeds.

15648

23456	M	IN	OUT	4THS	5THS	W	H
236745			–		2		1
473526		–	–			1	
476325		–			2		1
736425						2	
756324			–	–			2
347526		–				2	
456237		–	–				1
524736		–					
743256	1					1	
467235			–		1		
627543	1	–					
53246		–	–				
53462			–				1
36245	2		–				
64352			–				
26543			–			2	2
63542	1	–			1		
34625			–				
42356			–				

Twice repeated.

T. DAY.

* Rung at Oldham, in 1821. (See Part I., p. 8.)

† Rung at Elland, in 1831. (See Part I., p. 8.)

By a bob at the first part-end the foregoing 15168 may be brought round at 5088. Mr. Day's 15648 will also come round at the first part-end by two bobs at home in 5280 changes, or by one at the second part-end in 10464.

In the first part of this work, I should have mentioned (pp. 8-9) that about the year 1832, Mr. T. Thurstans, the composer of the well-known peal of Stedman Triples, was also busily engaged in the composition of Treble Bob Major, and that, with the assistance or in connection with Mr. T. Day, he composed the following peal of 15840 changes. In answer to my inquiries concerning this peal, Mr. John Day (Mr. T. Day's nephew) informs me that Thurstans went to Mr. Day, on several occasions, with long lengths of Treble Bob Major, and that on one occasion his uncle pointed out to Thurstans how, if he altered three courses with the seventh before, he would have a true peal of 15840 changes; whether, however, this peal was obtained before or after the one of the same length by Mr. Day, I have not been able to ascertain.

15840

23456	M	IN	OUT	4THS	5THS	W	H
35264			1				
726345			1	1	1		1
763245						1	2
756243		1				1	1
346725				1			1
543726		1				1	
36245	1				1		
64352			1				
45623			1				
52436			1				
23564			1				
527346			1	1			
472356	1						1
675324	2	1				1	
762354			1			1	2
56423				1	1		
62534			1				
23645			1				
34256			1				

Twice repeated.

T. THURSTANS.

* 15840

23456	M	IN	OUT	4THS	5THS	W	H
23564			1				1
527364			1	1			
726345	1		1		1		1
763245						1	2
756243		1				1	1
36245 4ths twice			1		1		
64352			1				
46532		1			1	1	2
675243	1	1			2		
764253			1			1	2
543726				1			
346725	1		1		1		1
427536		1	1			1	1
25634		1	1				1
53246			1				
63542			1			1	
34625			1				
42356			1				

Twice repeated.

T. DAY.

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* Rung at Bethnal Green, in 1868. (See Part I., p. 9.)

The following 16608, by Mr. Day, is the greatest length yet obtained by ordinary fourth's place bobs only; it can be brought round at the first part-end in 5568 changes, by calling one at home. Mr. Day's 16032, is merely this peal shortened in several of the courses in this manner:—One "before" only is called in the first course, after which the calling is the same as from the course-end 4 5 3 6 2 7, in the 16608, until the eighth course, which is to be called one in fourths and one at H., when the first course-end of the 16608 is brought up, after which the calling is again the same until the part-end comes up, with the exception that one at H. is added in the fifteenth course.

16032

234567	M	IN	OUT	4THS	5THS	W	H
352647			1				
756243	out & 4ths twice.				1		
472563			1			2	2
472356	2	out & 4ths, 4ths & out.				2	
732456	2	1	1	·	2		1
367425			1		1		
567432	1	1				1	
237546				1			1
357624	1	1					
675432		1	1		1		
763452			1			1	2
654327	4ths & in twice, 4ths & out.				1	1	1
625347	2						1
235647	1		1				
236457			1				1
342567			1				

Twice repeated.

T. DAY.

16608

234567	M	IN	OUT	4THS	5THS	W	H
237546			1		1		1
357624	1	1					
675432		1	1		1		
763452			1			1	2
65432	4ths & in twice, 4ths & out.				1	1	1
62534	2						1
23564	1		1				
36245			1				
45362			1			2	
756324	out & 4ths twice				1		
273564			1			2	2
273456	2	out & 4ths, 4ths & out.				2	
743256	2	1	1		2		1
467235			1		1		
567243	1	1				1	
23645		1	1				
34256			1				

Twice repeated.

T. DAY.

CHAP. III.—TREBLE BOB ROYAL.

FIVE-PART PEALS.

5000

23456	M	W	H	23456	M	W	H
36452	1		2	32654	2		2
54632		2	2	36524		1	2

B. Annable.

5000

23456	M	W	H	23456	M	W	H
46532	1	1	2	46532	1	1	2
45362		1	2	62534	1		2

B. Annable.

5000

23456	M	W	H	23456	M	W	H
25634	2	1	1	45236		1	1
54632	1		2	36524	1	2	2

T. Hurry.

*5000

23456	M	W	H	23456	M	W	H
65432	1	1	1	26354	2		1
34562		2	2	34562	1	1	2

W. D. Crofts.

5000

23465	M	W	H	23456	M	W	H
23564	2	2	1	23564	2	2	1
45362	1		1	56234		1	1

From T. Sibson's MS.

5200

23456	M	W	H
32654	2		2
56234		2	2

T. Hurry.

† 5400

23456	M	W	H
26354	2		1
52643	2	2	2

Unknown.

If another bob at H. be called in the second course of the last of the foregoing 5000's it will run to 5200 changes (W Shipway). Hurry's peal of 5200 is, in like manner, merely the same as one of the 5000's by Annable, with another call added, and the 5400 is another of the 5000's with two calls added in each part.

Of the foregoing peals I may remark, that the peals by Annable were found by me in an old note-book of that composer's; that by inquiries I rescued from obscurity some MSS. of Crofts (see Part I., p. 6), from which I copied the peal here ascribed to him, which has since been re-composed and rung at Wakefield; that the peal from Sibson's MS. was extracted from an ancient note-book, forwarded from Leicester for my inspection; and that the

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* Rung on November 21st, 1840, at All Saints', Wakefield. Conducted by W. Puliam.

† Rung by the Cumberland Youths, at All Saints', West Ham, Essex, on November 27th, 1758. Conducted by Samuel Wood. (See Part I., p. 11.)

5400 was extracted from one of the peal books of the Cumberland Youths, in the course of obtaining some lengthy notes of the performances of that society, with which, in answer to a request of mine, its members kindly furnished me. I believe, however, that it is the only instance in any of their records, until quite recently, in which the calling is recorded.

7000

23456	M	W	H	23456	M	W	H
36452	1		2	36452	1		2
62453	1		2	34562		1	2
45623		1	1	56342		1	1

S. MARSH.

7000

23456	M	W	H	23456	M	W	H
64352	1		1	26354	2		1
53462		2	2	35264		1	1
46532		1	1	54263	1		2

T. ROBINSON.

7000

23456	M	W	H	23456	M	W	H
36452	1		2	52436		1	
54632		2	2	26435	1		2
35642		1		62534	2		2

S. MARSH.

7200

23456	M	W	H	23456	M	W	H
36452	1		2	36452	1		2
34562		1	2	62453	1		2
35642		1	2	64523		1	2

UNKNOWN.

* 7400

23456	M	W	H	23456	M	W	H
32654	2		2	32654	2		2
24653	1		2	36524		1	2
64523		2	1	56234		2	1

H. WARHURST.

7400

23456	M	W	H	23456	M	W	H
36452	1		2	36452	1		2
54632		2	2	63254	2		2
56342		1	2	62534		1	2

UNKNOWN.

† 9600

23456	M	W	H	23456	M	W	H
64352	1		1	26354	2		1
53462		2	2	23564		1	2
54632		1	2	34562	1		2
56342		1	2	42563	1		2

J. WOOD.

‡ 12000

23456	M	W	H	23456	M	W	H
36452	1		2	52436		1	
54632		2	2	25634	2		2
63542		1	1	24536	2		1
45362		2	2	46532	1		2
56342		2		64235	2		2

J. REEVES.

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* Rung at the Collegiate Church, Manchester, by a company from Mottram, on January 3rd, 1830, in 4 hrs. 55 mins. Conducted by Joseph Shaw. Tenor, 25 cwt.

† Call any one part 1 M. 2 W. 2 H., and the part-end is brought up at the course-end, and the peal curtailed to 8240 changes, which length was rung at Ashton-under-Lyne, on January 2nd, 1847, in 5 hrs. 27 mins. Conducted by its composer. Tenor, 28 cwt.

‡ Rung by the Cumberland Youths, in 1784. (See Part I., pp. 13-14.)

13800

23456	M	W	H	23456	M	W	H
36452	1		2	52436		1	
45362		1	1	56234	2		1
56342		2		64235	1		2
65243	2		2	43265		2	
24653		1	1	45362	2		1
45623		2		52364	1		2

J. REEVES.

14000

23456	M	W	H
36452	1		2
45362		1	1
*62453		2	
26354	2		2
35264		1	1
56234		2	

JOHNSON.—REEVES.

[*] The tenor is called into the hunt and the ninth out of the hunt in this course.

The extent with the tenors together in Treble Bob Royal consists of 14400 changes, but the foregoing 13800 is the greatest number of changes which has yet been produced. It will be seen that, in the original of this peal, all the bobs possible at the W. and H. are called in each part, and that three out of the six at the M. are utilised. Shipway remarks on this peal:—"If one of these," meaning one of the three bobs at the M., "could be obtained, it would amount to 14000 exactly, which is worth investigating." Probably this matter has been thoroughly gone into by many of our best composers, but, as yet, the desired object has not been attained. Mr. H. Johnson has, however, produced the foregoing excellent variation of Reeves's peal, which extends it to exactly 14000 changes, and only parts the tenors for one lead in each part.

THREE-PART PEALS.

The 5040, by Mr. Tebbs, which follows, is called into and out of the tittums in each part. Mr. Hudson's peal is given by the number of the leads at which the calls have to be made.

5040

23456	M	W	H	23456	M	W	H
52364	2	2	2	52364	2	2	2
65243	2	2	2	53624		1	2
53246	1		2	25346	2	2	2

J. REEVES.

5040

23456	M	W	H
– 56342	1	2	2
64523	2	2	
– – 42356		1	2

J. TEBBS.

† 5280

23456	M	W	H
64352	1		1
63542		1	2
25346	1		1
42356		1	

W. HUDSON.

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† Rung at Wakefield, on November 18th, 1852. Conducted by W. Scott.

5280

23456	
45236	2-4-6-8-10 12-14
53246	2-5-8
42356	2-3-5-6-8-9-11 12-14-15

W. HUDSON.

6000

23456	M	W	H	23456	M	W	H
46532	1	1	2	62534	2	1	2
45362		1	2	26435	2		2
63542		2	2	65432	1		2
34256	1	2		34256	1	1	

W. GARRARD.

6000

23456	M	W	H	23456	M	W	H
23564	2	2	1	36452	1		2
54632	1	1	2	54632		2	2
45236	2		2	23645	1	1	1
34256		1		34256	2	2	

J. REEVES.

6000

23456	M	W	H	23456	M	W	H
36452	1		2	26354	2		1
54632		2	2	52643	2	2	2
54326	2	2	1	25346	2		2
42356		2		42356		1	

S. MARSH.

6000

23456	M	W	H	23456	M	W	H
52364	2	2	2	35264	2	2	
42635	1	2	1	42563	1		1
45236	2		1	52643		2	1
34256		1		35426	2	1	2

J. COX.

6000

23456	M	W	H	23456	M	W	H
23564	2	2	1	35264	2	2	
23645	2	2	1	42563	1		1
25346	2		1	52643		2	1
42356		1		52436	2	2	1

S. MARSH.

6120

23456	M	W	H	23456	M	W	H
52364	2	2	2	35264	2	2	
64235	1	2	2	54263	1		2
45236	1		2	52643		1	2
34256		1		35426	2	1	2

J. COX.

6120

23456	M	W	H	23456	M	W	H
23564	2	2	1	35264	2	2	
62345	2	2	2	54263	1		2
25346	1		2	52643		1	2
42356		1		52436	2	2	1

S. MARSH.

If one at H. is called at the second part-end of the following 7440, by Mr. Cox, the peal will come round at 5000 changes.

The first half of each part of Mr. Johnson's 10440 has the bells in the tittum position, while in the other half they are in the ordinary position of home. The 26160 of Mr. Johnson's, which can be increased to 26880, contains the 120 course-ends, without a M. W. or H. being called. This as well as other peals is given by the numbers of the leads at which the calls require to be made.

7080

23456	M	W	H	23456	M	W	H
23564	2	2	1	35264	2	2	
56234		1	1	54263	1		2
64235	1		2	52643		1	2
45236	1		2	64523		1	1
34256		1		35426	1		1

UNKNOWN.

7440

23456	M	W	H	23456	M	W	H
56342	1	2	2	36452	1		2
53462		1	2	52364	2	1	
62345	1	2	2	24365	1		2
25346	1		2	23645		1	2
42356		1		52436	2	1	2

J. COX.

8040

23456	M	W	H
64352	1		1
56342		1	
54263	2	1	1
62345	1	1	
25346	1		2
42356		1	

UNKNOWN.

8160

23456	M	W	H
64352	1		1
35642		1	1
26543	1		1
62345	2		2
25346	1		2
42356		1	

UNKNOWN.

10200

23456	M	W	H	23456	M	W	H
36452	1		2	36452	1		2
54632		2	2	34562		1	2
56342		1	2	23645	2	1	2
53462		1	2	35642	1		2
62345	1	2	2	52643	1		2
25346	1		2	25346	2		2
42356		1		42356		1	

H. JOHNSON.

10440

	23456	
-	23456	
	35426	2-5-8
	52436	2-5-8
	24536	3-6-9
- -	24536	
	45236	3-6-9
	53246	2-5-8
	34256	2-5-8

H. JOHNSON.

11210

23456	M	W	H	23456	M	W	H
36452	1		2	36452	1		2
54632		2	2	34562		1	2
63542		1	1	63542		1	
45362		2	2	36245	2		2
56342		2		35642	2		1
62345	1		2	52643	1		2
25346	1		2	25346	2		2
42356		1		42356		1	

H. JOHNSON.

24000

23456	
35264	4-7
56342	4-7
63542	3-6-9
35642	3-6-9
54326	4-7
43526	3-6-9
35426	3-6-9
52364	4-7
23564	3-6-9
36245	4-7
64352	4-7
43652	3-6-9
36452	3-6-9
65324	4-7
53624	3-6-9
36524	3-6-9
62345	4-7
23645	3-6-9
34256	4-7

H. JOHNSON.

26160

23456	
35264	4-7
56342	4-7
64523	4-7
45623	3-6-9
52436	4-7
24536	3-6-9
45236	3-6-9
53462	4-7
34562	3-6-9
46325	4-7
62453	4-7
24653	3-6-9
46253	3-6-9
65432	4-7
54632	3-6-9
32465	3-4-6-7-9 10-12-13
36524	3-5-7-9 11-13
62345	4-7
23645	3-6-9
34256	4-7

H. JOHNSON.

TWO-PART PEALS.

In the construction of two-part peals of Treble Bob Royal, there is, as in Major, more scope for variety in the plans upon which such peals may be arranged. I therefore class the following two-part compositions into (1) peals with the sixth the extent each way in 5-6; (2) those with the fifth and sixth the extent in 5-6; (3) miscellaneous peals; and (4) peals in the tittum position and those in which the tenors are altered from their ordinary coursing order.

Peals with the sixth the extent in 5-6.

The following peals have the sixth the extent each way in 5-6, and *also* a double bob at H. at each course-end. Many of the shorter of these peals can be increased by adding or interpolating courses if a longer number is desired. For instance, if two courses be called 1 M. 1 W. 2 H., the first course-end of Mr. Reeves's 5360 will be brought up, and the peal be lengthened to 6240 changes (H. Hubbard).

[*] 5200

23456	M	W	H	23456	M	W	H
52364	2	2	2	52364	2	2	2
25463	2		2	24365	1		2
64523		2	2	23645		1	2
43526	1		2	32546	2		2
45236		1	2	45236		2	2

H. COOPER.

[†] 5200

23456	M	W	H	23456	M	W	H
52364	2	2	2	52364	2	2	2
24365	1		2	24365	1		2
23645		1	2	65432	1	2	2
52436	2	1	2	52436	1		2
54326		1	2	54326		1	2

W. BOOTH.

[‡] 5360

23456	M	W	H	23456	M	W	H
52364	2	2	2	52364	2	2	2
25463	2		2	25463	2		2
24653		1	2	63542	1	2	2
32546	2	1	2	32546	1		2
45236		2	2	45236		2	2

J. REEVES.

6000

23456	M	W	H	23456	M	W	H
56342	1	2	2	36452	1		2
53462		1	2	23564	2	1	2
32465	1		2	34562	1		2
34625		1	2	65432		2	2
43526	2		2	52436	1		2
45236		1	2	54326		1	2

J. SHORT.

[*] On twelve bells this peal runs to 7200 changes, which length was rung at Birmingham in 1820. (Part I., p. 17.)

[†] This peal, begun with the calling of the fifth course, was first rung on March 23rd, 1846, at St. Peter's, Sheffield. Conducted by its Composer.

[‡] On twelve bells this peal runs to 7392 changes, which length was rung at Oldham in 1832. (Part I., p. 17.)

6080

23456	M	W	H	23456	M	W	H
46532	1	1	2	46532	1	1	2
52364	1	1	2	52364	1	1	2
25463	2		2	24365	1		2
64523		2	2	23645		1	2
43526	1		2	32546	2		2
45236		1	2	45236		2	2

H. HUBBARD.

6080

23456	M	W	H	23456	M	W	H
56342	1	2	2	36452	1		2
53462		1	2	23564	2	1	2
32465	1		2	32465	2		2
64235		2	2	34625		1	2
45236	1		2	43526	2		2
32546		2	2	45236		1	2

J. COX.

6080

23456	M	W	H	23456	M	W	H
36452	1		2	46532	1	1	2
42563	1	1	2	45362		1	2
24365	2		2	52364	1		2
23645		1	2	64235	1	2	2
52436	2	1	2	45236	1		2
54326		1	2	32546		2	2

J. COX.

6320

23456	M	W	H	23456	M	W	H
52364	2	2	2	52364	2	2	2
24365	1		2	24365	1		2
52643	2	1	2	65432	1	2	2
23645	1		2	64352		1	2
52436	2	1	2	52436	1	2	2
54326		1	2	54326		1	2

T. HURRY.

7040

23456	M	W	H	23456	M	W	H
24536		1	2	32654	2		2
62345	2	1	2	24653	1		2
63425		1	2	53462	1	2	2
24365		2	2	32465	1		2
45362	1		2	34625		1	2
63542		2	2	43526	2		2
32546	1		2	45236		1	2

H. W. HALEY.

7120

23456	M	W	H	23456	M	W	H
62534	2	1	2	32654	2		2
35264		2	2	54263	1	2	2
54263	1		2	45362	2		2
52643		1	2	63542		2	2
23645	1		2	65432		1	2
32546	2		2	52436	1		2
45236		2	2	54326		1	2

H. W. HALEY.

7200

23456	M	W	H	23456	M	W	H
52364	2	2	2	52364	2	2	2
24365	1		2	24365	1		2
65432	1	2	2	35642	1	1	2
64352		1	2	52643	1		2
63542		1	2	23645	1		2
52436	1	1	2	52436	2	1	2
54326		1	2	54326		1	2

H. HUBBARD.

7440

23456	M	W	H	23456	M	W	H
52364	2	2	2	52364	2	2	2
24365	1		2	24365	1		2
62453	2	2	2	52643	2	1	2
26354	2		2	56423		1	2
64352	1		2	24653		2	2
52436	1	2	2	52436	2	2	2
54326		1	2	54326		1	

H. HUBBARD.

The following peals have the sixth the extent each way in 5-6, but being without a double bob at H. at each course-end, I have, for the sake of comparison, separated them from the foregoing peals.

5040

23456	M	W	H
52364	2	2	2
24365	1		2
63542	1	1	
52436	1	1	2
54326		1	2

J. MARTIN.

* 5120

23456	M	W	H
52364	2	2	2
24365	1		2
34625		2	1
43526	2		2
45236		1	2

UNKNOWN.

5200

23456	M	W	H
52364	2	2	2
25463	2		2
64352	1	1	
32546	1	1	2
45236		2	2

J. REEVES.

5440

23456	M	W	H
52364	2	2	2
24365	1		2
24653	2	2	1
52436	2	2	2
54326		1	2

J. REEVES.

6000

23456	M	W	H	23456	M	W	H
54632	1	1		56234	2	1	
32465	1	2	2	24365	1	1	2
23564	2		2	45362	1		2
25634		1	2	63542		2	2
52436	2		2	32546	1		2
54326		1	2	45236		2	2

UNKNOWN.

6000

23456	M	W	H
36452	1		2
34562		1	2
43265	2		2
23645		2	1
32546	2		2
45236		2	2

S. AUSTIN.

7200

23456	M	W	H
36452	1		2
53462		1	
52364	2		1
24365	1		2
62345		1	
25346	1		2
34256		1	1
45236		2	

H. JOHNSON.

Peals with the fifth and sixth the extent in 5-6.

If Mr. Johnson's 8000, which follows, be compared with the preceding 6000 of Mr. Short's, it will be seen that two additional courses are called, which increases the peal to 8000 changes, and produces the extent of the fifth and sixth in 5-6.

7120

23456	M	W	H	23456	M	W	H
54326		2	2	24536		1	2
53246		1	2	62345	2	1	2
36245	1		2	35426	1	1	2
25463	1	1	2	46253	1	1	2
43652	1	1	2	42563		1	2
52364	1	2	2	23564	1		2
24365	1		2	32465	2		2

H. JOHNSON.

8000

23456	M	W	H	234'56	M	W	H
36452	1	2	2	36452	1		2
42563	1	1	2	23564	2	1	2
23564	1		2	34562	1		2
25634		1	2	65432		2	2
52436	2		2	52436	1		2
54326		1	2	54326		1	2
26435	1	2	2	36245	1	1	2
24365		1	2	32465		1	2

H. JOHNSON.

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* Rung at the opening of Chesterfield Bells, in 1820.

8000

23456	M	W	H	23456	M	W	H
36452	1		2	36452	1		2
63254	2		2	62453	1		2
52364		2	2	26354	2		2
64523	2	1		65324		2	
46325	2		2	24536	1	2	2
23645		2	2	42635	2		2
26435		1	2	36245		2	2
24365		1	2	32465		1	2

H. Hubbard.

8000

23456	M	W	H	23456	M	W	H
24536		1	2	54326		2	2
56342	1	1	2	53246		1	2
62345	1		2	36245	1		2
35426	1	1	2	25463	1	1	2
46253	1	1	2	43652	1	1	2
42563		1	2	46532		1	2
23564	1		2	52364	1	1	2
32465	2		2	24365	1		2

S. Marsh.

9000

23456	M	W	H	23456	M	W	H
54326		2	2	36452	1		2
65243	2	1	2	34562		1	2
42563		2	2	35642		1	2
25564	1		2	53246	2		2
34562	1		2	52436		1	2
65432		2	2	54326		1	2
52436	1		2	45623	2		2
26435	1		2	23564	1	2	2
24365		1	2	32465	2		2

H. Johnson.

10000

23456	M	W	H	23456	M	W	H
36452	1		2	36452	1		2
54632		2	2	62453	1		2
56342		1	2	26354	2		2
53462		1	2	53624		2	2
35264	2		2	35426	2		2
62534		2	2	24536		2	2
26435	2		2	46532	1		2
34625		2	2	62534	1		2
36245		1	2	26435	2		2
32465		1	2	24365		1	2

H. Johnson.

MISCELLANEOUS TWO-PART PEALS.

Of the subjoined peals it will be seen that the first, third, and fifth have the sixth six course-ends home, while the fourth and sixth peals have the fifth and sixth each four course-ends home.

5040

23456	M	W	H	23456	M	W	H
23564	2	2	1	35264	2	2	
62345	2	2	2	34562	2		1
25346	1		2	42563	1		2
34256		1	1	45623		1	2
45236		2		45236	2	2	1

H. Johnson.

5120

23456	M	W	H	23456	M	W	H
52364	2	2	2	52364	2	2	2
53624		1	2	24365	1		2
34625	1		2	63425		2	2
43526	2		2	64235		1	2
45236		1	2	45236	1		2

J. Barraclough.

[*] 5120

23456	M	W	H	23456	M	W	H
52364	2	2	2	35264	2	2	
52643	2	2	1	34562	2		1
25346	2		2	42563	1		2
34256		1	1	52643		2	1
45236		2		45236	2	2	2

G. Menday.

[†] 5120

23456	M	W	H	23456	M	W	H
62534	2	1	2	36452	1		2
26435	2		2	62453	1		2
34625		2	2	26354	2		2
36245		1	2	53624		2	2
32465		1	2	24365	1	2	2

J. Shaw.

6000

23456	M	W	H	23456	M	W	H
23564	2	2	1	35264	2	2	
24365	2		1	34562	2		1
52643	2	1	2	42563	1		2
25346	2		2	65243		2	2
34256		1	1	35426	1	2	1
45236		2		45236		2	1

S. Marsh.

6080

23456	M	W	H	23456	M	W	H
32654	2		2	36452	1		2
64523	1	1	2	62453	1		2
46325	2		2	26354	2		2
23645		2	2	53624		2	2
26435		1	2	64235	1	1	2
24365		1	2	32465		2	2

J. Cox.

[‡] 5040

23456	M	W	H	23456	M	W	H
54326		2	2	24536		1	2
46325	1		2	35426		2	2
35264	1	1	2	46253	1	1	2
53462	2		2	42563		1	2
32465	1		2	24365	2		2

H. Johnson.

5040

23456	M	W	H	23456	M	W	H
36452	1		2	56342	1	2	2
23564	2	1	2	53462		1	2
25634		1	2	32465	1		2
52436	2		2	64235		2	2
54326		1	2	45236	1		2

J. Cox.

5120

23456	M	W	H	23456	M	W	H
32654	2		2	36452	1		2
24653	1		2	34562		1	2
52436	2	2	2	63425	2	2	2
26435	1		2	64235		1	2
24365		1	2	32465		2	2

W. Harrison.

[§] 5200

23456	M	W	H	23456	M	W	H
35264	2	2		52364	2	2	2
53462	2		2	24365	1		2
64352		2	2	52643	2	1	2
52436	1	2	2	25346	2		2
54326		1	2	54326		2	

W. Garrard.

[*] Rung at St. Clement's Danes, London, by the College Youths, in 1849. Conducted by its Composer.

[†] Rung at Sheffield, on April 1st, 1834, by a company from Mottram. Conducted by its Composer.

[‡] Rung at Aston, in 1846. Conducted by its Composer.

[§] Rung at St. Mary's, Ipswich, on February 16th, 1850. Conducted by its Composer.

Peals in the tittums and with the tenors parted.

There are several peculiarities in the following peals which are worthy of notice. The two first are called into and out of the ordinary tittum position in each part. The third and fourth peals have each the sixth the extent home, and have also that bell in that position at twelve course-ends. The two last peals, by Mr. Hubbard, have the heavy bells in, what is called, the "caters tittum position," when they strike (with the sixth behind the ninth) 76890 at the course-ends, and consequently come down to lead in the coursing order of 7-8-0-9-6: the 5960 is the least number of changes in which the fifth and sixth bells can be made to work their extent behind the ninth. By omitting a bob at home in the second course, and calling two at home in the last course of this peal, the number will be increased to 6000 changes. Although the 5960 is not strictly in two parts, it is given here so as to be shown in conjunction with the 6000 on the same plan.

5040

	23456	M	W	H
-	24536		1	2
	25346		1	2
	63542	1		1
- -	32546	1		2
	45236		2	2

H. HUBBARD.

5440

	23456	M	W	H
-	52364	2	2	2
	24365	1		2
	23645		1	2
	52436	2	1	2
- -	54326		1	2

H. HUBBARD.

5760

23456	
54326	2-3-5-6-8 9-11-12-14-15
42356	2-5-8
25346	2-5-8
53246	3-6-9
34256	2-5-8
45236	2-5-8

H. JOHNSON.

6160

23456	
35426	2-5-8
54326	3-6-9
43526	3-6-9
32654	2-10-11
25346	4-7
53246	3-6-9
32546	3-6-9

J. J. B. LATES.

5960

234567	M	IN	5THS	7THS	W	H
764325	1			1		2
324576	1			2		2
542376					2	2
235476					1	1
453276					2	2
523476					2	
632475	1	1	1	1		2
423675					2	2
364275					1	1
246375					2	2
436275					2	
234567		1	1	1	1	

H. HUBBARD.

* 6000

234567	M	IN	5THS	7THS	W	H
764325	1			1		2
324576	1			2		2
542376					2	2
523476					1	2
345276					1	1
243657		1	1	1	1	

H. HUBBARD.

* Rung at Bradford, Yorkshire, in 1857. Conducted by Josiah Barraclough.

ONE-PART PEALS.

Peals with the sixth the extent in 5-6.

In the following peals the sixth works its extent each way in 5-6, being four courses each way in the first three, and five courses each way in the next three, whilst Mr. Hubbard's peal has both the fifth and the sixth their extent in 5-6. These peals can be lengthened by introducing different or a greater number of courses between the course-ends when the sixth is wrong and right.

* 5000

23456	M	W	H	23456	M	W	H
56342	1	2	2	36452	1		2
53462		1	2	23564	2	1	2
32465	1		2	34562	1		2
25463	1		2	42563	1		2
52364	2		2	24365	2		2
53624		1	2	63425		2	2
35426	2		2	35426	1		2
24536		2	2	24536		2	2
25346		1	2	25346		1	2
23456		1	2	23456		1	2

J. Riley.

† 5000

23456	M	W	H	23456	M	W	H
52364	2	2	2	52364	2	2	2
24365	1		2	24365	1		2
45362	1		2	45362	1		2
54263	2		2	54263	2		2
46253		2		62453		2	2
53624	1	2	2	53624	2	1	
35426	2		2	35426	2		2
24536		2	2	24536		2	2
25346		1	2	25346		1	2
23456		1	2	23456		1	2

W. Booth.

‡ 5040

23456	M	W	H
52364	2	2	2
24365	1		2
45362	1		2
54263	2		2
52643		1	2
63425	1	1	2
35426	1		2
24536		2	2
25346		1	2
23456		1	2

J. Reeves.

§ 5320

23456	M	W	H
35264	2	2	
53462	2		2
52364	2		1
24365	1		2
42563	2		2
64523		1	
43526	1		2
25346		2	2
34256		1	1
52436		2	2
23456		2	

W. Hudson.

5360

23456	M	W	H	23456	M	W	H
36452	1		2	36452	1		2
34562		1	2	53462		1	
42563	1		2	35264	2		2
23564	1		2	34562	2		1
32465	2		2	42563	1		2
34625		1	2	24365	2		2
43526	2		2	63425		2	2
25346		2	2	35426	1		2
34256		1	1	24536		2	2
52436		2	2	25346		1	2
23456		2		23456		1	2

H. Johnson.

* Rung at Wrexham on August 17th, 1818. Conducted by its Composer.

† This peal, begun with the calling of the ninth course, was first rung on December 25th, 1826, at St. Peter's, Sheffield. Conducted by its Composer.

‡ This peal, on twelve bells, runs to 7008, which number was rung by the College Youths in 1784. (Part I., p. 16.)

§ Rung on Easter Monday, 1844, at St. Peter's, Sheffield. Conducted by J. Firth.

6240

23456	M	W	H	23456	M	W	H
36452	1		2	56342	1	2	2
52364	2	1		45362		1	
25463	2		2	54263	2		2
23564	2		1	53462	2		1
34562	1		2	32465	1		2
43265	2		2	23564	2		2
42635		1	2	36524		2	
34625		1		64523	1		2
43526	2		2	43526	1		2
25346		2	2	25346		2	2
34256		1	1	34256		1	1
52436		2	2	52436		2	2
23456		2		23456		2	

W. HARRISON.

7320

23456	M	W	H	23456	M	W	H
52364	2	2	2	52364	2	2	2
24365	1		2	24365	1		2
62453	2	2	2	35642	1	1	2
26354	2		2	52643	1		2
64352	1		2	23645	1		2
52436	1	2	2	52436	2	1	2
54326		1	2	54326		1	2
25463	2	2	2	25463	2	2	2
53462	1		2	53462	1		2
62345	1	2	2	25634	2	1	2
63425		1	2	26354		1	2
64235		1	2	53624		2	2
25346	1	1	2	25346	2	2	2
23456		1	2	23456		1	2

H. HUBBARD.

MISCELLANEOUS ONE-PART PEALS.

The different peculiarities presented in the following compositions may easily be recognised by inspection. The two last are, respectively, the greatest numbers yet produced in nine and ten courses. Only the reverse variations of the most interesting of these peals are given.

5000

23456	M	W	H
35264	2	2	
53462	2		2
24365	1		1
42563	2		2
34625	2	1	2
43526	2		2
25346		2	2
34256		1	1
52436		2	2
23456		2	

W. BOOTH.

* 5000

23456	M	W	H
56342	1	2	2
25463	2	1	2
53462	1		2
32465	1		2
34625		1	2
43526	2		2
25346		2	2
34256		1	1
52436		2	2
23456		2	

T. GAY.

5000

23456	M	W	H
52364	2	2	2
24365	1		2
23645		1	2
46325		2	2
64523	2		2
43526	1		2
25346		2	2
34256		1	1
52436		2	2
23456		2	

W. BOOTH.

5000

23456	M	W	H
36452	1		2
23564	2	1	2
34562	1		2
42563	1		2
34625	2	1	2
43526	2		2
25346		2	2
34256		1	1
52436		2	2
23456		2	

J. COX.

* Rung on May 10th, 1847, at St. Peter's, Sheffield. Conducted by its Composer.

5000

23456	M	W	H
62534	2	1	2
35264		2	2
53462	2		2
32465	1		2
34625		1	2
43526	2		2
25346		2	2
34256		1	1
52436		2	2
23456		2	

J. COX.

* 5000

23456	M	W	H
52364	2	2	2
24365	1		2
45362	1		2
42563	2		1
45623		1	2
53624	1		2
35426	2		2
24536		2	2
25346		1	2
23456		1	2

W. BOOTH.

† 5000

23456	M	W	H
25634	2	1	1
53462	1	2	
35264	2		2
34562	2		1
32465	2		1
65243	1	2	2
43526	1	2	2
53246		2	1
52436		1	2
23456		2	

C. FIRTH.

‡ 5000

23456	M	W	H
36452	1		2
23564	2	1	2
32465	2		2
64235		2	2
62345		1	2
63425		1	2
35426	1		2
24536		2	2
25346		1	2
23456		1	2

S. MARSH.

5000

23456	M	W	H
56342	1	2	2
45623	2	2	2
24536	2	2	2
32465	2	2	2
23564	2		2
34562	1		2
63425	2	2	2
25346	1	2	2
23456		1	2

H. JOHNSON.

5000

23456	M	W	H
36452	1		2
52643	1	2	2
25346	2		2
34256		1	1
45236		2	
34562	2	2	2
34625	2	2	1
43526	2		2
52436		1	1
23456		2	

S. MARSH.

§ 5120

23456	M	W	H
52364	2	2	2
65243	2	2	2
62453		1	2
64523		1	2
46325	2		2
53624	1		1
35426	2		2
24536		2	2
25346		1	2
23456		1	2

W. BOOTH.

‖ 5000

23456	M	W	H
36452	1		2
62453	1		2
34256	1		1
53246		1	
36245	1		2
65243	1		2
32546	1		1
43526		1	
34625	2		2
35426	2		1
23456		1	

J. COX.

5000

23456	M	W	H
54632	1	1	
42635	1		2
45236	2		1
34256		1	
52643	1	1	
23645	1		2
25346	2		1
42356		1	
64523	2	1	2
35426	1		1
23456		1	

J. MILLER.

5000

23456	M	W	H
64352	1		1
63542		1	2
54632		1	1
45236	2		2
34256		1	
52643	1	1	
25346	2		2
42356		1	
53624	1	1	
35426	2		2
23456		1	

H. DAINS.

5040

23456	M	W	H
54632	1	1	
32546	2	1	
23645	2		2
25346	2		1
42356		1	
62534	1	2	1
45236	1		1
34256		1	
64523	1	2	1
35426	1		1
23456		1	

H. DAINS.

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* Rung on March 15th, 1873, at St. Peter's, Sheffield. Conducted by T. Hattersley.

† Rung on March 4th, 1850, at All Saints', Wakefield. Conducted by Wm. Scott.

‡ Rung on April 30th, 1848, at Christ Church, West Bromwich. Conducted by its Composer.

§ Rung on November 2nd, 1829, at St. Ann's, Rotherham. Conducted by its Composer.

‖ Rung in 1870, by the St. James's Society, at London. Conducted by its Composer.

5040

23456	M	W	H	23456	M	W	H
23564	2	2	1	35264	2	2	
24365	2		1	42563	1		1
63542	1	1		56423		1	1
25346	1		1	23564	2	1	
42356		1		45362	1		1
62534	1	2	1	36452		1	1
45236	1		1	52364	2	1	
34256		1		43265	1		1
64523	1	2	1	64235		1	
35426	1		1	53246	1	1	1
23456		1		23456		2	1

H. DAINS.

5080

23456	M	W	H
54632	1	1	
45236	2		2
32654	1	1	
34256	2		1
53246		1	
35642	2		2
32546	2		1
43526		1	
34625	2		2
35426	2		1
23456		1	

W. HARRISON.

5160

23456	M	W	H	23456	M	W	H
52364	2	2	2	52364	2	2	2
24365	1		2	25463	2		2
45362	1		2	53462	1		2
54263	2		2	25634	2	1	2
62453		2	2	26354		1	2
26354	2		2	53624		2	2
64352	1		2	35426	2		2
52436	1	2	2	24536		2	2
54326		1	2	25346		1	2
23456		2	2	23456		1	2

W. HARRISON.

5400

23456	M	W	H	23456	M	W	H
36452	1		2	54326		2	2
62453	1		2	46325	1		2
26354	2		2	23645		2	2
23564		1	2	26435		1	2
32465	2		2	32465		1	
34625		1	2	23564	2		2
43526	2		2	24365	2		1
25346		2	2	45362	1		2
34256		1	1	54263	2		2
52436		2	2	62453		2	2
23456		2		23456	1		2

W. HARRISON.

† 5200

23456	M	W	H	23456	M	W	H
56342	1	2	2	25634	2	1	1
64523	2	2		32546	2	2	2
26435	2	2	2	43265	2	2	2
32654	2	2	2	64352	2	2	2
54263	1	2	2	56423	2	2	2
65432	2	2	2	35264	2	1	2
36524	2	2	2	63542	2	2	2
23645	2	2	2	34625	2	2	
23456	2	2	1	23456	2	2	2

J. REEVES.

5840

23456	M	W	H
56342	1	2	2
45623	2	2	2
24536	2	2	2
32465	2	2	2
53624	2	1	2
25346	2	2	2
62453	2	1	2
56234	2	2	2
34625	1	2	2
23456	2	2	2

H. HUBBARD.

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† This peal, on twelve bells, runs to 7104 changes, which number was rung by Cumberland Youths in 1802. (Part I., p. 16.)

Peals in the tittums and with the tenors parted.

Amongst the following peals, the first by Mr. Hubbard has the sixth the extent each way in the tittum position. A variation on the 6000 may be had by calling 1 H. instead of 1 W. in the first course, 1 W. in the seventh, and 2 M. in the eighth (W. Harrison). Mr. Booth's 5000 has the sixth home at each course-end. In this peal the M. W. H. signify the actual positions of the tenor at the bobs; the course-end—when the bells are in the tittums—is taken as the plain lead which follows the last bob at H. Mr. Johnson's 5120 has the sixth the extent each way in the tittum position, while his 6000 has the sixth the extent home both in and out of the tittum position.

5000

23456	M	W	H
- 52364	2	2	2
24365	1		2
45362	1		2
54263	2		2
65243		1	
53246	1		2
42356		2	2
43526		1	2
45236		1	2
- - 23456		1	1

H. HUBBARD.

5000

	234567	M	W	H
	- 574263		2	2
	425763	2		2
	472563	1		2
7th in	53246		1	2
	24536	2		2
	23456	1		2
	* 24536	2	2	1
	35426		2	2
	23456		1	

W. BOOTH.

5000

23456	M	W	H
- 52364	2	2	2
64235	1	2	2
62345		1	2
45236	1	2	2
34562	2	2	2
62453	1	2	2
43526	1	1	2
- - 25346		2	2
23456		1	2

J. COX.

* In the seventh course of Mr. Booth's peal the 8th is called thrice in fourths place, between the 2.M. and the 2 W., which brings the course-end 24536 in two courses.

5120

23456	M	W	H
- 52364	2	2	2
24365	1		2
45362	1		2
54263	2		2
52643		1	2
25346	2		2
43526		2	2
45236		1	2
42356		1	2
- - 23456			2

H. JOHNSON.

5440

23456	M	W	H
- 35264	2	2	
53462	2		2
52364	2		1
24365	1		2
42563	2		2
64523		1	
43526	1		2
25346		2	2
34256		1	1
52436		2	2
- - 23456		2	

H. HUBBARD.

6000

23456	M	W	H
- 56234	2	1	
34562	2	1	
43265	2		2
45362	2		1
52364	1		2
25463	2		2
64523		2	2
43526	1		2
25346		2	2
34256		1	1
52436		2	2
- - 23456		2	

H. HUBBARD.

6000

23456	M	W	H
- 34256			2
52436		2	2
43526		1	1
25346		2	2
54326		2	
- - 26435	1	2	2
34625		2	2
43526	2		2
25346		2	2
34256		1	1
52436		2	2
23456		2	

H. JOHNSON.

The annexed peal by Mr. Johnson has the sixth the extent in all positions. The figures between the M.'s and the W.'s signify bobs at the leads named, without counting the leads which are produced when calls are made at the M., that is, the numbers apply to the position of the tenor corresponding to the number of the similar lead in a course without bobs at the M.

5160

23456	M		W	H
52364		4-7		2
24365	2	4-7	1	2
25463	2	3-6-9		2
53462	2	4-7	1	2
23645	2	4-7		1
52436		4-7	2	2
54326	1	4-7	2	2
25346		3-6-9	2	2
23456	1	4-7	2	2

H. JOHNSON.

CHAP. IV.—TREBLE BOB MAXIMUS.

FIVE-PART PEALS.

THE two following peals each consist of five parts. When, as in the 6240, the last course of a peal has calls at the M. and the H., without intervening calls at the W., the peal can be begun with the bobs at H. at the first and second lead-ends; when, after the last M. is called, the peal will finish with the last ten leads of the plain course. When the 6240 was rung at Norwich, the bob at H. was called at the first lead-end. The object of this is, of course, to obviate any fear of a jumble out, and to make the best ringing in the last course, and, when the company is not a very able one, perhaps there is no real ground for an objection to such a proceeding; but, for my own part, I should certainly prefer to risk any danger of getting out rather than have recourse to this measure.

6000

23456	M	W	H
64352	1		1
56342		1	

H. HUBBARD.

*6240

23456	M	W	H
45236		1	1
62534	1		1

T. BARTON.

THREE-PART PEALS.

Each of the following are in three parts. By calling any one part of W. Hudson's peal, as annexed, it will be reduced to 5136 changes. J. Miller's peal will come round at the second part-end in 5040 changes, by calling 1 H.

23456	M	W	H
65432	1	1	1
34256	1	1	

5790

23456	M	W	H
54632	1	1	
45236	2		2
34256		1	

W. HUDSON.

7488

23456	M	W	H
64352	1		1
63542		1	2
25346	1		1
42356		1	

J. MILLER.

*Rung at Norwich in 1778. (Part I., p. 15.)

TWO-PART PEALS.

In the two-part peals which follow, Mr. Cox's 5088 is called in and out of the tittums in each part. Mr. Hubbard's 8256 has the sixth, and Mr. Johnson's 10176 both the fifth and the sixth, the extent each way in 5-6.

5088

23456	M	W	H
-52364	2	2	2
52643	2	2	1
--45236	2	2	2

J. Cox.

5088

23456	M	W	H	23456	M	W	H
56234	2	1		36452	1		2
42635	1		1	24653	1		1
46325		1	2	52643		1	
24365		1		24365	1	2	

W. Harrison.

* 5184

23456	M	W	H
36452	1		2
62453	1		2
34256	1		1
45236		2	

J. Cox.

6144

23456	M	W	H	23456	M	W	H
52364	2	2	2	52364	2	2	2
26354		2		65243	2	2	2
52643	2	2	2	54632	2	2	
45236	2	2	2	45236	2		2

H. Hubbard.

8256

23456	M	W	H	23456	M	W	H
26354	2		1	64352	1		1
23564		1	2	53462		2	2
32465	2		2	32465	1		2
34625		1	2	64235		2	2
43526	2		2	45236	1		2
45236		1	2	32546		2	2

H. Hubbard.

10176

23456	M	W	H	23456	M	W	H
54326		2	2	36452	1		2
25463	2	2	2	42563	1	1	2
53462	1		2	34625	2	1	2
64352		2	2	43526	2		2
52436	1	2	2	45236		1	2
46325	1	1	2	34562	2	2	2
43265		1	2	43265	2		2

H. Johnson.

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* First rung on May 4th, 1869, by the Cumberland Youths, at St. Bride's, London, in hrs. 55 mins. Conducted by its Composer. Tenor, 28 cwt.

ONE-PART PEALS.

The two following peals have the sixth the extent home at four course-ends.

5040

23456	M	W	H	23456	M	W	H
23564	2	2	1	52364	2	2	2
32465	2		2	24365	1		2
53624	2	1	2	45362	1		2
35426	2		2	54263	2		2
24536		2	2	62453		2	2
25346		1	2	53246	1	2	2
23456		1	2	23456		2	1

J. Reeves.

5040

23456	M	W	H	23456	M	W	H
52364	2	2	2	52364	2	2	2
45623	2	1	2	24365	1		2
53624	1		2	45362	1		2
35426	2		2	54263	2		2
24536		2	2	62453		2	2
25346		1	2	64523		1	2
23456		1	2	23456	1	2	2

J. Cox.

The sixth is the extent home at five course-ends in the following peals. Gay's peal may be slightly varied, as is shown in the reverse.

5328

23456	M	W	H
36452	1		2
24653	1		1
64523		2	1
43526	1		2
25346		2	2
34256		1	1
52436		2	2
23456		2	

S. Marsh.

* 5376

23456	M	W	H
36452	1		2
62453	1		2
64523		1	2
43526	1		2
25346		2	2
34256		1	1
52436		2	2
23456		2	

H. W. Haley.

6000

23456	M	W	H	23456	M	W	H
35264	2	2		35264	2	2	
54263	1		2	53462	2		2
32465	1		1	52364	2		1
64523	1	1		24365	1		2
43526	1		2	42563	2		2
25346		2	2	64523		1	
34256		1	1	32546	1	1	1
52436		2	2	35426		1	2
23456		2		23456		1	

H. Johnson.

6000

23456	M	W	H	23456	M	W	H
46532	1	1	2	35264	2	2	
45362		1	2	53462	2		2
42563	2		1	52364	2		1
64523		1		24365	1		2
43526	1		2	42563	2		2
25346		2	2	64523		1	
34256		1	1	43526	1		2
52436		2	2	52436		3	1
23456		2		23456		2	

T. Gay.

6240

23456	M	W	H	23456	M	W	H
36452	1		2	56342	1	2	2
23564	2	1	2	45362		1	
32465	2		2	54263	2		2
34625		1	2	53462	2		1
43526	2		2	32465	1		2
25346		2	2	23564	2		2
34256		1	1	65324		2	2
52436		2	2	54326	1		2
23456		2		23456		2	2

W. Harrison.

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* Rung by the Cumberland Youths, at St. Giles's, Cripplegate, on February 15th, 1848, in 4 hrs. 14 mins. Conducted by its Composer. Tenor, 36 cwt.

7008

23456	M	W	H	23456	M	W	H
52364	2	2	2	35264	2	2	
54263	2		1	53462	2		2
43265	1		2	52364	2		1
45362	2		1	24365	1		2
64523	2	2	2	42563	2		2
43526	1		2	45623		1	2
25346		2	2	45236	2	2	1
34256		1	1	32546		2	2
52436		2	2	54326		1	1
23456		2		23456		2	2

H. W. Haley.

7008

23456	M	W	H	23456	M	W	H
56342	1	2	2	56342	1	2	2
25463	2	1	2	42563	2	1	
52364	2		2	24365	2		2
24365	1		2	25463	2		1
34625		2	1	53462	1		2
43526	2		2	35264	2		2
25346		2	2	25634		2	1
34256		1	1	52436	2		2
52436		2	2	54326		1	2
23456		2		23456		2	2

H. W. Haley.

In the peals given below, the sixth is three course-ends each way in 5-6.

5040

23456	M	W	H	23456	M	W	H
52364	2	2	2	52364	2	2	2
24365	1		2	24365	1		2
42563	2		2	45362	1		2
45623		1	2	64523	2	2	2
24536	2	2	2	43526	1		2
25346		1	2	25346		2	2
23456		1	2	23456		1	2

H. Hubbard.

5088

23456	M	W	H	23456	M	W	H
52364	2	2	2	52364	2	2	2
24365	1		2	24365	1		2
42563	2		2	42563	2		2
34625	2	1	2	65243		2	2
43526	2		2	43526	1	2	2
25346		2	2	25346		2	2
23456		1	2	23456		1	2

W. Harrison.

* 5088

23456	M	W	H	23456	M	W	H
52364	2	2	2	52364	2	2	2
25463	2		2	25463	2		2
53462	1		2	53462	1		2
64352		2	2	25634	2	1	2
52436	1	2	2	52436	2		2
54326		1	2	54326		1	2
23456		2	2	23456		2	2

H. Johnson.

† 5088

23456	M	W	H
52364	2	2	2
24365	1		2
45362	1		2
45623	2	2	1
24536	2	2	2
25346		1	2
23456		1	2

J. Cox.

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* First rung at St. Martin's, Birmingham, on March 21st, 1848, in 3 hrs. 53 mins. Conducted by its Composer. Tenor, 35 cwt.

† First rung by the College Youths, in 1846, at St. Saviour's, Southwark, in 4 hrs. 20 mins. Conducted by its Composer Tenor, 52 cwt.

5136

23456	M	W	H	23456	M	W	H
52364	2	2	2	52364	2	2	2
24365	1		2	25463	2		2
45362	1		2	53462	1		2
24653	2	1	2	65324	2	2	2
52436	2	2	2	24536	1	2	2
54326		1	2	25346		1	2
23456		2	2	23456		1	2

J. REEVES.

6000

23456	M	W	H
52364	2	2	2
52643	2	2	1
45236	2	2	2
34562	2	2	2
43265	2		2
62534	1	1	
54326	1	1	2
23456		2	2

J. REEVES.

The various peculiarities of the seven following peals are not of much importance from a musical point of view. Mr. Cox's 6348 is the greatest length obtained in eight courses.

*5136

23456	M	W	H
24536		1	2
35426		2	2
23564	2	2	2
64352	1	2	2
32546	1	1	2
64523	1	1	1
23456	1	2	2

S. MARSH.

5040

23456	M	W	H
36452	1		2
65432		2	
24536	1		1
32546		1	
65243	1		1
42356	1	1	
65324	1	1	1
23456	1	1	

W. HARRISON.

5088

23456	M	W	H
64352	1		1
56342		1	
25645	1		1
26435		1	2
24365		1	2
62345		1	
25346	1		2
23456		1	2

W. HARRISON.

5472

23456	M	W	H
52364	2	2	2
64235	1	2	2
36452	2	2	2
53624	2	2	2
25346	2	2	2
62453	2	1	2
23456	1		2

J. COX.

†5040

23456	M	W	H	23456	M	W	H
35426		2		54632	1	1	
24653	1	1		23645	1	1	1
56342	1	1		42635		1	
23645	1		1	36524	1	1	
46532	1	1		25463	1	1	
35264	1	1		52364	2		2
62453	1	1		65324		1	
23456	1		2	23456	1	1	

J. COX.

‡5184

23456	M	W	H	23456	M	W	H
52364	2	2	2	52364	2	2	2
65243	2	2	2	36524		1	1
65432	2	2	1	54263	1	1	2
32546	1	2	2	43265	1		2
35426		1	2	46532	2	1	1
62453	1	1	1	34625	2	2	2
23456	1		2	23456	2	2	2

J. COX.

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* First rung at Christ Church, West Bromwich, on April 28th, 1853, in 3 hrs. 21 mins. Conducted by its Composer. Tenor, 24 cwt.

† First rung in 1871, by the St. James' Society, at London. Conducted by its Composer.

‡ First rung by the College Youths, in 1849, at St. Saviour's, Southwark, in 4 hrs. 10 mins. Conducted by its Composer. Tenor, 52 cwt.

6000

23456	M	W	H
52364	2	2	2
52643	2	2	I
23645	I		2
45362	I	2	2
24653	2	I	2
52436	2	2	2
54326		I	2
23456		2	2

S. Marsh.

6348

23456	M	W	H
52364	2	2	2
64235	I	2	2
36452	2	2	2
52643	I	2	2
45236	2	2	2
34562	2	2	2
34625	2	2	I
23456	2	2	2
52364	2	2	2
65243	2	2	2
36452	2	I	2
53624	2	2	2
45236	2	I	2
34562	2	2	2
34625	2	2	I
23456	2	2	2

J. Cox.

In the two following peals the sixth is the extent each way in 5-6.

8016

23456	M	W	H
54326		2	2
25463	2	2	2
52364	2		2
53624		I	2
64235	I	I	2
45236	I		2
32546		2	2
43265	2	2	2
34562	2		2
62453	I	2	2
23456	1		2
52364	2	2	2
25463	2		2
24653		I	2
32546	2	I	2
45236		2	2
34562	2	2	2
43265	2		2
42635		I	2
65324	I	I	2
54326	I		2
23456		2	2

S. Marsh.

* 10224

23456	M	W	H
52364	2	2	2
24365	I		2
45362	I		2
54263	2		2
52643		I	2
25346	2		2
42356		I	
56234	I	2	2
64235	I		2
45236	I		2
34256		I	
56423	I	2	2
63425	I		2
35426	I		2
23456		I	
35264	2	2	
54263	I		2
52643		1	2
56423		I	2
23564	2	I	
34562	I		2
35642		I	2
36452		I	2
52364	2	I	
24365	I		2
63425		2	2
35426	I		2
24536		2	2
25346		I	2
23456		I	2

W. Estcourt.

Peals in the tittum position.

With the exception of Mr. Johnson's peal, which has the bells at the last four course-ends in the ordinary position, the following peals are in the tittum position throughout. Mr. Cox's 8112 is the greatest number obtained in ten courses.

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* Rung at Painswick, in 1833. (See Part I., pp. 17-18.

* 5040

23456	M	W	H
-36452	1		2
34562		1	2
63425	2	2	2
35426	1		2
24536		2	2
25346		1	2
--23456		1	2

H. HUBBARD.

5040

23456	M	W	H
-52364	2	2	2
24365	1		2
45362	1		2
64352		1	
52436	1	2	2
54326		1	2
--23456		2	2

H. JOHNSON.

5088

23456	M	W	H	23456	M	W	H
-52364	2	2	2	-52364	2	2	2
24365	1		2	24365	1		2
45362	1		2	63425		2	2
54263	2		2	35426	1		2
52643		1	2	24536		2	2
25346	2		2	25346		1	2
--23456		1	2	--23456		1	2

H. HUBBARD.

5088

23456	M	W	H
-52364	2	2	2
34625	1	1	2
43526	2		2
25346		2	2
34256		1	1
52436		2	2
--23456		2	

C. MIDDLETON.

5328

23456	M	W	H
-34256			2
25346		1	1
43526		2	2
32546		2	
--25346			2
34256		1	1
52436		2	2
23456		2	

H. JOHNSON.

8112

23456	M	W	H
-56342	1	2	2
45623	2	2	2
24536	2	2	2
62345	2	1	2
46253	2	2	2
53624	1	2	2
25346	2	2	2
42563	2	2	2
34625	2	1	2
--23456	2	2	2

J. COX.

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* Rung at St. Peter's, Leeds, by the Yorkshire Association, on April 22nd, 1878, in 3 hrs. 50 mins. Conducted by Tom Lockwood; being the first peal of Treble Bob Maximus ever rung in the tittum position. Tenor, 36 cwt.

CHAP. V.—LIST OF COMPOSERS' NAMES.

The following list comprises the names of the composers of the different peals in this collection.

ANNABLE, BENJAMIN, College Youths, *London*. Died February 1st, 1756, age supposed to be between 60 and 70 years.

AUSTIN, SAMUEL, College Youths, *London*. Died October 5th, 1877, aged 78 years.

BARKER, JOHN, *Liversedge*, Yorkshire. Died February 17th, 1875, aged 59 years.

BARTON, THOS., Norwich Scholars, *Norfolk*. Died about 1819, aged about 85 years.

BOOTH, WM., *Sheffield*, Yorkshire. Died October 6th, 1849, aged 66 years.

BUCKLEY, JOHN, Yorkshire Association, *Earlsheaton*.

CASHMORE, PAUL, *West Bromwich*, Staffordshire.

CAWOOD, LISTER, Yorkshire Association, *Otley*.

COOPER, HENRY, St. Martin's Youths, *Birmingham*. Died July 2nd, 1864, aged 72 years.

COX, JOHN, Cumberland Youths, *London*.

CROFTS, WM. DOUBLEDAY, Attorney-at-Law, *Nottingham*. Died November 29th, 1809, aged 67 years.

CRUTE, GEORGE, *Liverpool*.

DAINS, HENRY, Cumberland Youths, *London.*
DAY, THOS., St. Martin's Youths, *Birmingham.* Born October 30th, 1803; died April 10th, 1879, in his 76th year.
DIXON, JOHN, Yorkshire Association, *Birstall.*

ESTCOURT, WM., Painswick Youths, *Painswick,* Gloucestershire. Died February 23rd, 1876, aged 78 years.
EVERSFIELD, WM., *Gravesend,* Kent. Died September 9th, 1847, in his 80th year.

FIRTH, CHARLES, *Wakefield,* Yorkshire.
FIRTH, JAMES, *Liversedge,* Yorkshire. Died March 22nd, 1867, aged 65 years.
FLEMING, JOSEPH, *Halifax,* Yorkshire. Died February 11th, 1860, in his 70th year.

GARRARD, WM., *Ipswich,* Suffolk. Died July 15th, 1867, aged 63 years.
GAY, THOS., *Sheffield,* Yorkshire. Died December 3rd, 1863, aged 44 years.
GOODALL, WM., *Liversedge,* Yorkshire.
GREENWOOD, THOS., *Marsham,* Norfolk.

HAIGH, TOM, Yorkshire Association, *Huddersfield.*
HALEY, HENRY WM., College Youths, *London.*
HARDCASTLE, JOSEPH H., *Bradford,* Yorkshire.
HARRISON, WM., *Mottram-in-Longdendale,* Cheshire.
HERON, JOHN, jun., *Liverpool,* Lancashire.
HUBBARD, HENRY, sen., Yorkshire Association, *Leeds.* Late of the Norwich Scholars. Author of a work on ringing, of which, between the years 1845 and 1876, four editions have been published.
HUDSON, WM., *Sheffield,* Yorkshire. Born October 14th, 1791; died October 24th 1851, in his 61st year.
HURRY, THOS., Norwich Scholars, *Norwich.* Died February 5th, 1869, aged 86 years.

JOHNSON, HENRY, sen., St. Martin's Youths, *Birmingham.*

LANG, OBADIAH, *Liversedge*, Yorkshire. Died April 26th, 1877, aged 75 years.

LATES, JOHN JAMES BENJAMIN, St. Philip's Society, *Birmingham.* Died March 22nd, 1858, aged 59 years.

LOCKWOOD, JAMES, Yorkshire Association, *Leeds.*

LOCKWOOD, TOM, Yorkshire Association, *Leeds.*

MARSH, SAMUEL, *West Bromwich*, Staffordshire.

MARTIN, JOHN, *Leicester.* Died October 16th, 1799.

MENDAY, GEORGE, College Youths, *London.*

MIDDLETON, CHARLES, Norwich Scholars, *Norwich.*

MILLER, JEREMIAH, Cumberland Youths, *London.* Died July 13th, 1877, aged 77 years.

NICHOLL, JAMES, *Sowerby*, Yorkshire. Died December 29th, 1872, aged 64 years.

PATRICK, JOHN, College Youths, *London.* Joined the College Youths in 1730; was interred at St. Leonard's, Shoreditch, on June 26th, 1796, aged about 85 years.

PITSTOW, NATHAN JOHN, *Saffron Walden*, Suffolk.

PITSTOW, FREDERICK, *Saffron Walden*, Suffolk.

PLATT, JAMES, *Saddleworth*, Yorkshire. Died September 21st, 1858, aged 72 years.

RAVENSCROFT, CHARLES, *Bromsgrove.* Died September 18th, 1812, aged 46 years.

REEVES, JOHN, College Youths, *London.* Died about 1820, aged about 80 years. One of the authors of a work on ringing, published in 1788, and from which all the peals to which his name is attached, in this collection, are taken.

RILEY, JOSEPH, *Cheltenham.* Died in 1833, aged about 70 years.

ROBINSON, THOS., *Bury St. Edmunds*, Suffolk Deceased (date unknown). Rang at Bury in 1799.

ROBINSON, THOS., Yorkshire Association, *Scarborough.*

ROYLE, WM., *Manchester.* Died October, 1876, aged 63 years.

SHAW, JAMES, *Mottram-in-Longdendale*, Cheshire. Died June, 1837, aged 48 years.

SHIPWAY, WM., Cumberland Youths, *London*. Born at Bath, September 29th, 1760; died in 1842, aged 82. Author of a work on ringing, published in 1814-1816, and from which all the peals to which his name is attached, in this collection, are taken.

SHORT, JOSHUA, Aston Society, *Birmingham*. Died at Witton, February 15th, 1832, aged 68 years.

SIBSON, THOS., *Leicester*. Died May 3rd, 1831, aged 80 years. A peal of Royal, which appears in this collection, was found pinned into a note-book belonging to Thos. Sibson, but the figures are not in the same handwriting as the contents of the book, nor is there any reason for supposing the peal to be Sibson's own composition.

SMALLPAGE, SAMUEL, *Leeds*, Yorkshire. Died April 22nd, 1855, aged 58 years.

SOTTANSTALL, WM., *Sowerby*, Yorkshire. Author of a work on ringing, published in 1867.

TEBBS, JOSEPH, *Leeds*, Yorkshire. Died February 14th, 1836, aged 68 years.

THORP, JOHN, *Ashton-under-Lyne*, Lancashire.

THURSTANS, THOS., St. Martin's Youths, *Birmingham*. Died August 18th, 1858, aged about 56 years.

THURSTON, SAMUEL, Norwich Scholars, *Norwich*. Died January 9th, 1841, aged 52 years.

WARHURST, HENRY, *Mottram-in-Longdendale*, Cheshire. Died August 31st, 1857, aged 57 years.

WILDE, JAMES, *Hyde*, Cheshire. Died December 9th, 1877, aged 45 years.

WRIGHT, HUGH, *Leeds*, Yorkshire. Died January 24th, 1837, aged 74 years.

WOOD, JAMES, *Ashton-under-Lyne*.

WOODS, DANIEL, *Yarmouth*, Norfolk. Deceased (date of death unknown). Born probably about the beginning of this century.

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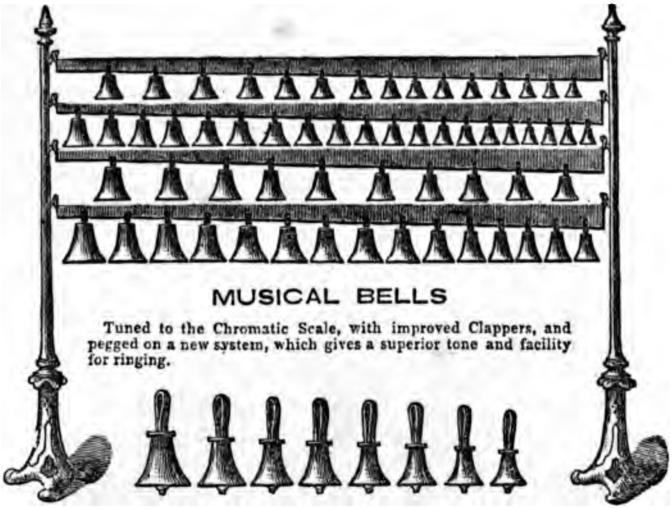
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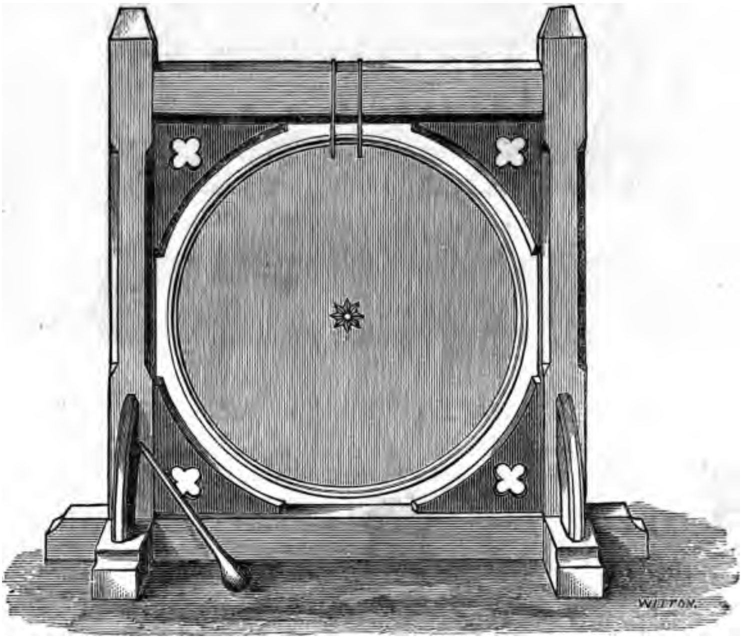

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